Changes in Federal Support for Academic S&E and R&D Activities Since the 1970s

Special Report

Alan I. Rapoport, Project Officer

Division of Science Resources Statistics
Directorate for Social, Behavioral, and Economic Sciences



National Science Foundation

Rita R. Colwell *Director*

Directorate for Social, Behavioral, and Economic Sciences

Norman M. Bradburn *Assistant Director*

Division of Science Resources Statistics

Lynda T. Carlson Mary J. Frase

Division Director Deputy Director

Ronald S. Fecso

Chief Statistician

Science and Engineering Indicators Program

Rolf F. Lehminig *Program Director*

DIVISION OF SCIENCE RESOURCES STATISTICS

The Division of Science Resources Statistics (SRS) fulfills the legislative mandate of the National Science Foundation Act to ...

provide a central clearinghouse for the collection, interpretation, and analysis of data on scientific and engineering resources and to provide a source of information for policy formulation by other agencies of the Federal Government...

To carry out this mandate, SRS designs, supports, and directs periodic surveys as well as a variety of other data collections and research projects. These surveys yield the materials for SRS staff to compile, analyze, and disseminate quantitative information about domestic and international resources devoted to science, engineering, and technology.

If you have any comments or suggestions about this or any other SRS product or report, we would like to hear from you. Please direct your comments to:

National Science Foundation Division of Science Resources Statistics 4201 Wilson Blvd., Suite 965 Arlington, VA 22230 Telephone: (703) 292-8774

Fax: (703) 292-9092 e-mail: srsweb@nsf.gov

Suggested Citation

National Science Foundation, Division of Science Resources Statistics, *Changes in Federal Support for Academic S&E and R&D Activities Since the 1970s*, NSF 04-304, Project Officer, Alan I. Rapoport (Arlington, VA 2003).

November 2003

SRS data are available through the World Wide Web (http://www.nsf.gov/sbe/srs/stats.htm). For more information about obtaining reports, contact paperpubs@nsf.gov or call (301) 947-2722. For NSF's Telephonic Device for the Deaf, dial (703) 292-5090.

ACKNOWLEDGMENTS

This report was prepared by Alan I. Rapoport, Senior Analyst, Science and Engineering Indicators (IND) Program, Division of Science Resources Statistics (SRS), Nation Science Foundation. Overall review and guidance were provided by Rolf F. Lehming, IND Program Director, by Mary J. Frase, Deputy Division Director, SRS, and by Jeri M. Mulrow, Senior Statistician, SRS. The following were members of the review committee for

this report: Richard Bennof, Brandon Shackelford, and Myles Boylan of NSF. Eileen Collins served as facilitator of the review committee. Rolfe W. Larson, Information and Technology Services Program (ITSP) managed editing and production of this report. John R. Gawalt, Program Director of ITSP, and his Web team handled electronic publication.

Contents

Section	Page
ACKNOWLEDGMENTS	iii
The Issue	1
REPORT CONTENTS AND DEFINITIONS Sidebar: Definitions of Federal Funding Categories	
Summary of Findings	5
NUMBER OF ACADEMIC INSTITUTIONS RECEIVING FEDERAL S&E SUPPORT	
CHANGES IN THE NUMBER OF INSTITUTIONS SUPPORTED, BY SELECTED	
CARNEGIE GROUP Research, doctorate-granting and medical institutions Two-year institutions All other Carnegie institutions	11 13
SHARE OF SUPPORT TO SELECTED CARNEGIE GROUPS	15
SHIFTS IN EMPHASIS OF FEDERAL S&E SUPPORT	17
FEDERAL AGENCIES PROVIDING ACADEMIC S&E SUPPORT Number of institutions receiving R&D Support Number of institutions receiving "other S&E support" Percentage of supported institutions receiving R&D funding Total institutions supported during FYs 1971–2000 and number of years institutions received support Shifts in funding for S&E support R&D support to Carnegie groups "Other S&E support" to Carnegie groups	19 20 21 21 22 23 23
Conclusion	25
TECHNICAL NOTE	27
APPENDIX A: FEDERAL S&E SUPPORT TO HISTORICALLY BLACK COLLEGES AND UNIVERSITIES	29
APPENDIX B: STATISTICAL TABLES	33

THE ISSUE

... it is clear that a portion of the funds expended by the National Science Foundation should be used to strengthen the weaker, but promising, colleges and universities, and thus to increase our total scientific potential. (Science and Public Policy (The Steelman Report): Part One—Science for the Nation, IV. A National Science Program, p.34. 1947)

Competing perspectives and national policies on the geographic and institutional distribution patterns for federal academic research awards have existed since at least the onset of the post-World War II social contract between the federal government and America's research universities. ("Policy Agendas and the Distribution of Federal Academic R&D Awards," paper presented by Irwin Feller at the Association for Policy Analysts and Management Annual Research Conference, November 4, 1999)

Federal science policy has long sought to strike a balance between supporting the best academic research proposals and nurturing the development of talent in all locations. The former tends to be institutionally concentrated; the latter is distributed across many universities and colleges. The longstanding concern about this inherent tension is well illustrated by these two quotations, separated by nearly half a century. The issue has engendered periodic discussions about the institutional distribution of Federal funds for all academic science and engineering (S&E) and for research and development (R&D).

¹ The National Science Foundation Act of 1950, creating the Foundation, states, "[I]t shall be an objective of the Foundation to strengthen research and education in the sciences, including independent research by individuals, throughout the United States, and to avoid undue concentration of such research and education."

REPORT CONTENT AND DEFINITIONS

To provide a context for future discussions of this issue, this report examines data on trends in Federal support of academic S&E activity during the past three decades, from fiscal year (FY) 1971 to FY 2000. It differentiates between trends in R&D support (including support for R&D plant) and trends in other, non-R&D types of S&E support identified below and referred to hereafter as "other S&E support." It also considers trends for different types of academic institutions over this period, in terms of the number receiving Federal funding and the share of funds received. (See the Technical Note at the end of the report for a discussion about the group of institutions that is the basis for this report.) Finally, it discusses shifts in the focus of Federal support between R&D and all other types of S&E activities. These trends are examined in the aggregate and also for selected Federal agencies that are major sources of academic S&E funding.

In its congressionally mandated annual Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions, the National Science Foundation (NSF) collects statistical data from about 18 agencies that account for virtually all Federal R&D support at academic institutions. In addition to annual Detailed Statistical Tables summarizing each survey year, the most current and updated data are contained in NSF's WebCASPAR data system (available at http://www.caspar.nsf.gov/)—the source of the information for this study.

NSF collects data for the following six categories of S&E support: conduct of R&D; R&D plant; facilities and equipment for S&E instruction; fellowships, traineeships, and training grants; general support for S&E; and other S&E activities. These categories are defined in the sidebar "Definitions of Federal Funding Categories" on the following page.

² The concept of Federal S&E support in this paper differs from several alternative concepts that have been introduced in recent years to isolate and describe fractions of Federal support that could be associated with scientific achievement and technological progress, including the concept of the Federal Science and Technology (S&T) budget. For a description of these concepts, see the sidebar "The Federal Science and Technology Budget and Related Concepts" in National Science Board, 2002, *Science and Engineering Indicators—* 2002, NSB-02-1, Arlington, VA: National Science Foundation.

³ The line between R&D and non-R&D S&E activities is often blurred. Research and teaching are often integrated. Funds are frequently provided for general or multiple uses that sometimes include research. The four activities under "other S&E support" are less directly related to R&D and more directly related to instruction than either the conduct of R&D or R&D plant. Therefore, for this analysis, they have been grouped and classified as "other S&E support" to differentiate them from more direct R&D activities.

Definitions of Federal Funding Categories

R&D

- R&D—includes all research activities, both basic and applied, and all development activities that are supported at universities and colleges. Demonstration projects conducted to discover whether a technology or method is workable are considered to be within the scope of R&D if their objective is to produce new information within a specific time period.
- R&D plant—includes projects with the main objective of providing support for the construction, acquisition, renovation, modification, repair, or rental of facilities, land, works, or fixed equipment for use in S&E R&D. A facility is interpreted broadly to be any physical resource important to the conduct of R&D. Excluded are expendable research equipment and office furniture and equipment.

"Other S&E Support"

 Facilities and equipment for S&E instruction include all programs whose main purpose is providing support for the construction, acquisition, renovation, modification, repair, or rental of facilities, land, works, or equipment for use in instruction in S&E.

- Fellowships, traineeships, and training grants—include all fellowship, traineeship, and training grant programs that are directed primarily toward the development and maintenance of S&E personnel resources.
- General support for S&E—includes programs that support nonspecific or generalized purposes related to scientific research and education. Such projects are generally oriented toward academic departments, institutes, or institutions as a whole. The support offered in this area ranges from that provided without any specification of purpose (other than that the funds be used for scientific projects) to that provided for activities within a specified field of S&E without a specific purpose.
- Other S&E activities—are those academic S&E activities that cannot be assigned to any of the preceding five categories, including support for scientific conferences, teacher institutes, and activities aimed at increasing the scientific knowledge of precollege and undergraduate students.

SUMMARY OF FINDINGS

The nature of Federal academic S&E support changed dramatically over the past three decades, with a shift in emphasis toward R&D support and away from "other S&E support." Although Federal funds for R&D support increased, in real dollars, threefold since FY 1971, funds for "other S&E support" were lower in FY 2000 than in FY 1971. (See appendix table 7.) Along with this shift in emphasis, and most likely as a consequence of it, fewer academic institutions received Federal S&E funds in FY 2000 than in the early 1970s. (See appendix table 1.) Academic institutions receiving Federal S&E funds today are much more likely to be receiving support for R&D than they were 30 years ago. In FY 2000, about 80 percent of the academic institutions with Federal S&E support received support for R&D activities compared with less than 50 percent in the early 1970s. (See appendix table 2.)

Most of the changes in the number of institutions supported and the character of activities supported occurred in 2-year, master's-granting, and baccalaure-ate-granting institutions; that is, those not classified by the Carnegie Foundation for the Advancement of Teaching as research, doctorate-granting, or freestanding medical institutions.⁴ (See appendix table 1.) All research universities, most doctorate-granting institutions, and about half of medical institutions received Federal support for R&D activities in each of the 30 years between FY 1971 and FY 2000. (See appendix table 3.) The other institutions, many of which stopped receiving Federal S&E

support in the 1970s and early 1980s, may have needed to improve their capacity to conduct R&D to compete for and obtain Federal S&E funds.

The most dramatic changes occurred between the early 1970s and early 1980s. During that period, the number of academic institutions receiving Federal S&E support fell by nearly half. (See appendix table 1.) In addition only 45 percent of all recipient institutions had Federal R&D funds in the early 1970s, compared to almost 90 percent by FY 1983. During the remainder of the 1980s, the percentage of Federal support recipients with R&D funds declined to 68 percent in FY 1989, then rose and fluctuated between 70 and 80 percent in the 1990s. (See appendix table 2.) After FY 1983, the number of 2-year, master's-granting, and baccalaureate-granting institutions receiving Federal S&E support began to increase. However, the level never reached that of the early 1970s. (See appendix table 1.)

The sharp decline in the number of institutions receiving Federal S&E support that occurred between the early 1970s and early 1980s was primarily the result of declines in the number supported by the two largest funders, the Department of Health and Human Services (HHS) and NSF. The decline in the number supported by NSF, which provided "other S&E support" to the largest number of institutions during the 1970s, was particularly dramatic, falling about 80 percent during the period. (See appendix table 9.)

Underlying these trends in the number of recipient institutions was a shifting balance in the nature of available Federal S&E funds. The FY 1971–83 period was characterized by a growing emphasis on Federal support of R&D and a decline in support of other S&E activities. This shift in emphasis started with the cancellation in the early 1970s of a number of Federal institutional support programs. These programs provided funds for activities such as facilities renovation and construction and for creation of centers of excellence in science through broadscale program development at different levels within academic institutions. The programs were cancelled because the Office of Management and Budget believed they were inappropriate at a time of perceived excess capacity in the academic sector and slower growth in

⁴ The Carnegie Foundation for the Advancement of Teaching has clustered institutions with similar programs and purposes to better describe the diverse set of traditional institutions serving various needs. Although a new Carnegie Classification was released in 2000, this analysis uses the 1994 Carnegie Classification. The approximate number belonging to each Carnegie classification in 1994, abbreviations for the classifications, and definitions of the 1994 Carnegie Classifications can be found in the Sidebar, 1994 Carnegie Classification of Academic Institutions, in the next section. The number of institutions in some categories differ slightly from those published in Science and Engineering Indicators 2002 because of differences in institutional reporting in the survey used for this study. The new 2000 categories combine research and doctorate-granting universities and do not take into account the amount of research support different institutions have received. Although a number of institutions may have changed Carnegie groups within the past three decades, this analysis places each institution into a specific Carnegie group according to its classification in 1994 (including changes made by Carnegie shortly after the initial classification).

Federal research funding. The proportion of Federal S&E dollars directed toward R&D activities at universities and colleges increased steadily during this period, from 67 percent to 89 percent. After FY 1983, the R&D share remained fairly stable. This change in emphasis in the early period occurred primarily in HHS, NSF, and the Department of Agriculture (USDA), and somewhat at the Environmental Protection Agency (EPA) rather than in all the Federal agencies providing academic S&E support. (See appendix table 6.)

Although the number of 2-year, 4-year, and master's-level institutions with Federal S&E support fluctuated considerably over the past three decades, the actual share of Federal funds they receive increased only slightly. All of this relative increase occurred after FY 1985, offset by declining shares for the research universities and the larger doctorate-granting (doctorate 1) institutions; smaller doctorate-granting (doctorate 2) institutions had a small share increase and freestanding medical institutions a substantial one. (See appendix table 5.)

Number of Academic Institutions Receiving Federal S&E Support

When the 1994 Carnegie Classification was completed, there were approximately 3,400 accredited degree-granting institutions of higher education in the United States.⁵ (See the Sidebar below, 1994 Carnegie Classification of Academic Institutions, for definitions of the 1994 Carnegie Classifications.) Many of these never received Federal S&E support, and among those that did, many received it infrequently. The Federal Government provided S&E support to 1,248 academic institutions in FY 1971 and to 1,046 institutions in FY 2000. The intervening period was characterized by considerable fluctuation in the number of institutions receiving Federal S&E funds. (See figure 1 and appendix table 1.) After reaching its peak for the entire period in FY 1972 (1,378), the number of recipient institutions declined, reaching a low of 674 in FY 1983, less than half the number at its peak. After FY 1983, the number of institutions receiving Federal support increased, reaching a high of 1,188 in FY 1992 and fluctuating between approximately 1,050 and 1,150 thereafter.

These overall trends mask key differences in the number of academic institutions receiving Federal R&D support, as opposed to those receiving "other S&E support." The number of institutions receiving only R&D dollars increased from a low of 33 in FY 1971 to 251 in FY 1983 and then fluctuated between 157 and 284 during the rest of the period. In contrast, the number receiving only "other S&E support" declined from a high of 761 in FY 1972 to a low of 74 in FY 1983, then increased to 332 in FY 1989, and fluctuated between 230 and 349 thereafter. The number of institutions receiving Federal support for both broad types of activities declined less dramatically—from a high of 569 in FY 1972 to a low of 349 in FY 1983—before beginning a trend characterized by a general increase to 654 in FY 1992 followed by fluctuations between 572 and 632. (See figure 1.)

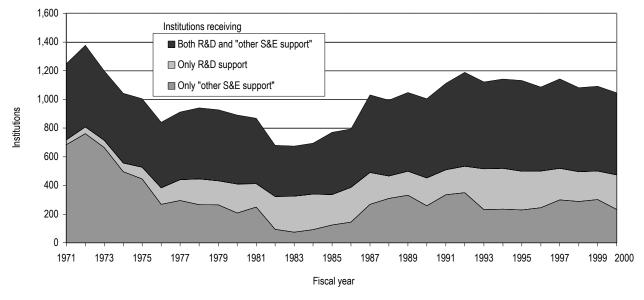


Figure 1. Number of academic institutions receiving Federal S&E support, by type of support: FY 1971-2000

NOTE: S&E support includes R&D support (both R&D and R&D plant) and "other S&E support" (facilities and equipment for S&E instruction; fellowships, traineeships, and training grants; general support for S&E; and other S&E activities).

⁵ This count does not include a number of private for-profit institutions and unaccredited institutions offering training in specialized areas such as cosmetology, air conditioning maintenance, and the like.

1994 Carnegie Classification of Academic Institutions

R1—Research universities 1 (89) offer a full range of baccalaureate programs, are committed to graduate education through the doctorate level, award 50 or more doctoral degrees, and receive \$40 million or more in Federal research support annually.

R2—Research universities 2 (37) are the same as research universities 1, except that they receive between \$15.5 million and \$40 million in Federal research support annually.

D1—Doctorate-granting institutions 1 (52) offer a full range of baccalaureate programs, are committed to graduate education through the doctoral degree, and award 40 or more doctoral degrees annually in at least five academic disciplines.

D2—Doctorate-granting institutions 2 (55) award 20 or more doctoral degrees annually in at least one discipline or 10 or more doctoral degrees in three disciplines.

MED—Medical institutions (57) are freestanding medical schools.

C1—Master's or comprehensive universities and colleges 1 (438) offer baccalaureate programs and, with few exceptions, graduate education through master's degrees. More than 50 percent of their bachelor's degrees are awarded in two or more occupational or professional disciplines, such as engineering and business administration. All of the institutions in this group enroll at least 2,500 students.

C2—Master's or comprehensive universities and colleges 2 (91) enroll between 1,500 and 2,500 students.

LA1—Baccalaureate or liberal arts colleges 1 (162) are highly selective, primarily undergraduate colleges that award more than 40 percent of their bachelor's degrees in the liberal arts and science fields.

LA2—Baccalaureate or liberal arts colleges 2 (450) award fewer than 40 percent of their degrees in the liberal arts and science fields and are less restrictive in admissions than baccalaureate colleges 1.

2-year—Associate of arts colleges (approximately 1,500) offer certificate or degree programs through the associate degree level and, with few exceptions, offer no bachelor's degrees.

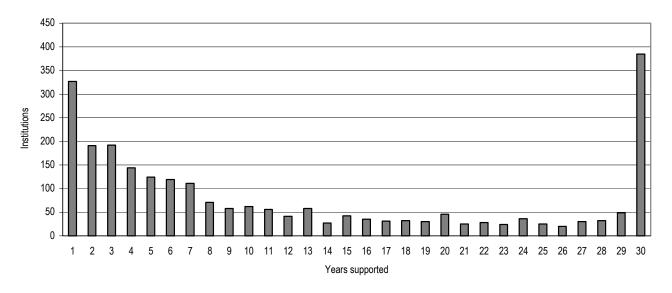
Other—Professional schools and other specialized institutions (approximately 700) offer degrees ranging from bachelor's to doctoral. At least 50 percent of the degrees awarded by these institutions are in single specialized fields. Institutions include theological seminaries, Bible colleges, and other institutions offering degrees in religion; health profession schools; law schools; engineering and technology schools; business and management schools; art, music, and design schools; teachers' colleges; and corporate-sponsored institutions.

Between 1971 and 1983, there was a substantial increase in the percentage of institutions receiving Federal R&D support. At the beginning of the 1970s, only 45 percent of the institutions receiving Federal S&E support received funds for R&D. By FY 1983, almost 90 percent of the supported institutions received R&D funds, although this percentage decreased thereafter. During the 1990s, 70 to 80 percent of supported institutions received R&D funds. (See appendix table 2.)

In summary, a shift in Federal support of S&E activities at academic institutions occurred over the past three decades. Fewer institutions are being supported overall, and greater emphasis is being placed on R&D funding, either alone or in concert with broader S&E funding.

The data also indicate that Federal support was episodic for many academic institutions. During the 30-year period between FY 1971 and FY 2000, an aggregate of more than 2,400 academic institutions received some form of Federal S&E support. However, most of these institutions did not receive support continually throughout the period. (See figure 2 and appendix table 3.) Most received support in less than half of the period (depending on the type of support being considered), and 40 to 50 percent were supported in 5 years or less. (See figure 3.) Only 21 to 27 percent of institutions receiving Federal support received it in more than 20 of the 30 years in the period. The extent of the continuity of support for an institution was often related to its Carnegie Classification, as the next section shows.

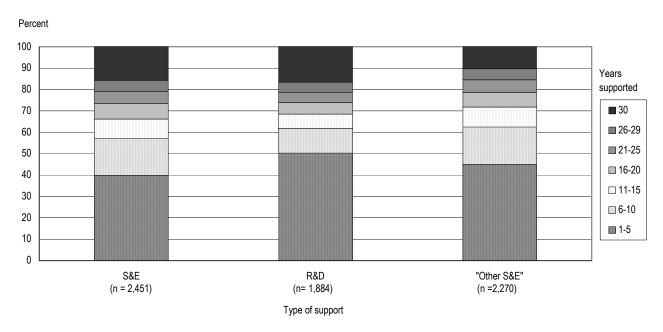
Figure 2. Distribution of the 2,451 academic institutions receiving any Federal S&E support in FY 1971 to 2000, by number of years supported during the period



NOTE: S&E support includes R&D support (both R&D and R&D plant) and "other S&E support" (facilities and equipment for S&E instruction; fellowships, traineeships, and training grants; general support for S&E; and other S&E activities).

SOURCE: National Science Foundation, Division of Science Resources Statistics, Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions, as reported in WebCASPAR data system (available at http://www.nsf.gov/sbe/srs/stats.htm).

Figure 3. Distribution of academic institutions receiving Federal S&E support in FY 1971 to 2000, by number of years supported during the period, by type of support



NOTE: S&E support includes R&D support (both R&D and R&D plant) and "other S&E support" (facilities and equipment for S&E instruction; fellowships, traineeships, and training grants; general support for S&E; and other S&E activities).

CHANGES IN THE NUMBER OF INSTITUTIONS SUPPORTED, BY SELECTED CARNEGIE GROUP

For this analysis, academic institutions are divided into three broad Carnegie groups: (1) research, doctorate-granting, and freestanding medical institutions; (2) 2-year colleges; and (3) all other Carnegie institutions (comprehensive universities and colleges, liberal arts colleges, and professional schools and other specialized institutions). Most of the year-to-year change in the number of institutions receiving Federal R&D or "other S&E support" occurred in the second and third groups, particularly in the third group. (See Appendix A, "Federal S&E Support to Historically Black Colleges and Universities" for a discussion of trends in support to this special group of institutions.)

Research, doctorate-granting, and medical institutions. Little variation existed in the number of research, doctorate-granting, and freestanding medical institutions receiving Federal S&E support during the FY 1971–2000

period. The number with Federal R&D support ranged from 246 to 265. (See figure 4.) The number receiving "other S&E support" ranged from 222 to 259. (See figure 5 and for a detailed breakout by Carnegie classification of the number of institutions receiving R&D or "other S&E support" each year between FY 1971 and FY 2000, see appendix table 1.) During this period, all of the major research universities (89 Carnegie research 1 and 37 research 2 institutions) received support for R&D every year. All of the research 1 institutions and all but two of the research 2 institutions also received "other S&E support" every year. (See appendix table 3 for the number of years institutions within specific Carnegie classifications received support during the 30-year period between FY 1971 and FY 2000.)

Doctorate-granting universities also consistently received Federal R&D support. Among the 52 Carnegie

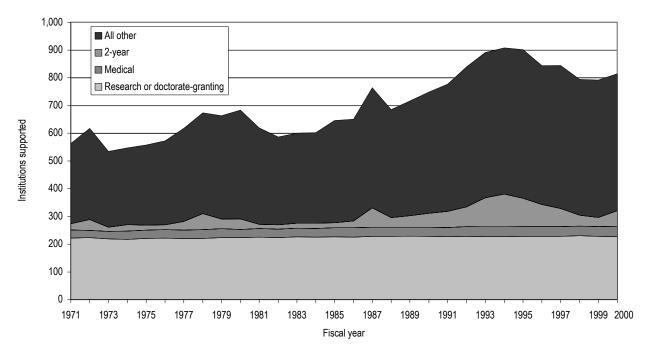


Figure 4. Number of academic institutions receiving Federal R&D support, by selected 1994 Carnegie group: FY 1971–2000

NOTES: R&D support includes support for both R&D and R&D plant. All other institutions include master's or comprehensive universities and colleges, baccalaureate or liberal arts colleges, professional schools and other specialized institutions, and any unclassified institutions of higher education.

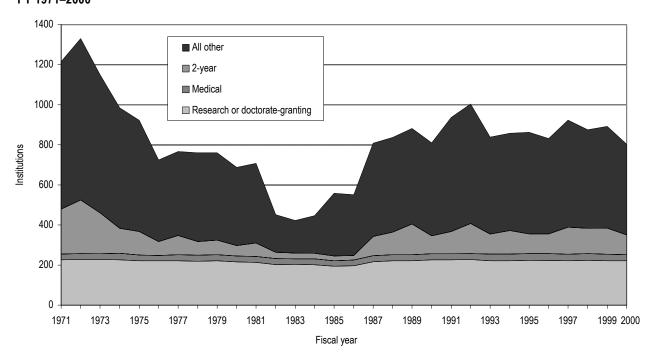


Figure 5. Number of academic insitutions receiving Federal "other S&E support," by selected 1994 Carnegie group: FY 1971–2000

NOTES: "Other S&E support" includes support for facilities and equipment for S&E instruction; fellowships, traineeships, and training grants; general support for S&E; and other S&E activities. All other institutions include master's or comprehensive universities and colleges, baccalaureate or liberal arts colleges, professional schools and other specialized institutions, and any unclassified institutions of higher education.

SOURCE: National Science Foundation, Division of Science Resources Statistics, Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions, as reported in WebCASPAR data system (available at http://www.nsf.gov/sbe/srs/stats.htm).

doctorate 1 institutions and 55 Carnegie doctorate 2 institutions, the number receiving R&D support in any given year ranged from 46 to 50 (doctorate 1) and 44 to 54 (doctorate 2). Forty of the doctorate 1 institutions received R&D support every year and an additional 8 received support in more than 20 years. Within the doctorate 2 institutions, 39 received R&D support in all 30 years and an additional 13 received support in more than 20 years. However, the number of doctorate 1 and doctorate 2 institutions receiving "other S&E support" in any year (31 to 51 and 37 to 54, respectively) was subject to greater variation, and fewer institutions in either group received this type of support every year. All doctorate 1 and 2 institutions received "other S&E support" at least once during the period, and all but one in each group received R&D support.6

Medical institutions also received Federal R&D support in most years. Among the 57 freestanding medical institutions, the number receiving R&D support in any given year ranged from 26 to 37 and the number receiving "other S&E support" ranged from 27 to 34. During the overall period, 42 medical schools received support, with 41 receiving R&D and 39 receiving "other S&E support." Twenty-two of the 41 freestanding medical schools receiving Federal R&D support received it in each of the 30 years and an additional 8 received support in more than 20 years.

⁶ The fact that every research and doctorate-granting institution (except Union Institute (D1) and Biola University (D2)) received both R&D and other S&E funds at least once during the FY 1971–2000 period and most of them received both types of support in every year provides some evidence of the usefulness of the 1994 Carnegie Classification scheme for the present analysis.

⁷The remaining 15 schools classified as medical do not appear in the NSF Division of Science Resources Statistics WebCASPAR database. Some of these may be included with the universities that they are part of (University of Connecticut Health Center, Louisiana State University Medical Center) and others may be aggregated into a single institution (University of Medicine and Dentistry of New Jersey (UMDNJ)-New Jersey Medical School, UMDNJ-New Jersey School of Osteopathic Medicine, UMDNJ-Robert Wood Johnson Medical School) rather than reported individually.

Two-year institutions. The number of 2-year institutions receiving Federal S&E support was never very high; those that received support did so infrequently. The number of 2-year institutions receiving R&D support increased from a low of 15 in FY 1973 to a peak of 118 in FY 1994 and then dropped to 33 in FY 1999 (see figure 4 and appendix table 1); the number receiving "other S&E support" went from a high of 266 in FY 1972 to a low of 23 in FY 1986 and then increased, fluctuating between 90 and 154 after FY 1986. (See figure 5.) Of the approximately 1,500 2-year institutions, only 491 received Federal R&D funding during the FY 1971-2000 period. Of those institutions, 219 received support in only a single year and an additional 199 received support in two to four years. Only four 2-year institutions received R&D support for more than half of the period (15 years). Nearly half of the 2-year institutions (726) received "other S&E support," with 297 receiving such support in only one or two years and an additional 316 receiving it in three to seven years. (See appendix table 3.)

All other Carnegie institutions. Within this group, the main recipients of Federal S&E funding (in terms of number of institutions supported) were master's or comprehensive institutions, followed by baccalaureate or liberal arts colleges. Members of this group, on average, received support more frequently than 2-year institutions but much less frequently than research, doctorategranting, and medical institutions. For the group as a

whole, the number receiving Federal R&D support fluctuated between 273 and 373 in the 1970s, between 317 and 433 in the 1980s, and between 437 and 536 in the 1990s. (See figure 4 and appendix table 1.) The number receiving "other S&E support" declined from a peak of 806 in FY 1972 to a low of 163 in FY 1983 and then increased again, fluctuating between 464 and 596 in the 1990s. (See figure 5.)

While most of these institutions received some type of Federal S&E support at least once during the 1971– 2000 period, they did not receive support consistently. Of the 529 institutions classified as comprehensive 1 and 2, 458 received R&D support and 499 received "other S&E support" at least once during the FY 1971–2000 period; among those receiving R&D support, 246 were funded in less than half of the period. Of the 612 liberal arts colleges, 438 received R&D support and 525 received "other S&E support" at least once during the FY 1971-2000 period; among those receiving R&D support, 331 were funded in less than half of the period, 217 in less than six years of the period. Of the remaining 225 institutions in the other Carnegie institutions group receiving Federal R&D support at least once, only 61 were funded in more than five years. (See appendix table 3.)

SHARE OF SUPPORT TO SELECTED CARNEGIE GROUPS

Federal S&E funds—both R&D and "other S&E"—have been historically concentrated within the research, doctorate-granting, and medical institutions. These institutions received between 93 percent and 96 percent of all S&E funds, between 94 percent and 97 percent of R&D funds, and between 81 percent and 93 percent of other S&E funds during the FY 1971–2000 period. (See figure 6 and appendix table 4.) However, there was a perceptible shift in fund shares over the 30-year period.

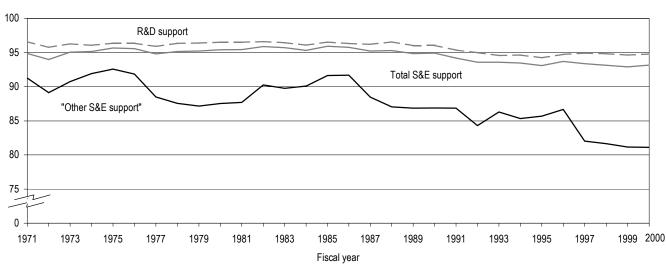
Most of the change in Federal R&D fund shares occurred within research, doctorate-granting, and medical institutions—with a shift away from research 1, research 2, and doctorate 1 institutions and toward the doctorate 2 and medical institutions. (See appendix table 5.) For example, the share received by research 1 institutions declined from 81 to 75 percent during the FY 1971–2000 period, while the shares received by doctorate 2 and medical institutions increased from

2 percent to 4 percent and 5 to 9 percent, respectively. The increased share of Federal R&D funds directed to medical institutions can probably be attributed to the rapid increase in the the National Institutes of Health budget, particularly during the 1990s. The combined share going to 2-year and all other Carnegie institutions increased slightly less than 2 percentage points during the 30-year period.

The nature of the change in "other S&E support" shares was quite different. The combined share going to research, doctorate-granting, and medical institutions decreased from 91 percent to 81 percent, with very little internal redistribution. Although the 2-year institutions had a slight increase in share, most of the increase in share went to all other Carnegie institutions, particularly the comprehensive institutions and other institutions. (See appendix table 5.)

Figure 6. Share of Federal S&E support to academic institutions received by 1994 Carnegie research, doctorate-granting and medical institutions, by type of support: FY 1971–2000

Percent



NOTE: S&E support includes R&D support (both R&D and R&D plant) and "other S&E support" (facilities and equipment for S&E instruction; fellowships, traineeships, and training grants; general support for S&E; and other S&E activities).

SHIFTS IN EMPHASIS OF FEDERAL S&E SUPPORT

Between FY 1971 and FY 1983, the distribution of funds between R&D support and "other S&E support" changed rather dramatically. (See appendix table 6.) In FY 1971, two-thirds of Federal academic S&E funds supported R&D activities and the remaining one-third supported all other S&E activities. After FY 1971, the share devoted to R&D rose steadily, reaching a peak of 89 percent in FY 1983. After FY 1983, the R&D share fluctuated between 86 percent and 88 percent while the "other S&E" share fluctuated between 12 percent and 14 percent. Since the combined group of research, doctorategranting, and freestanding medical institutions receive most of the S&E funds, the distribution between R&D and other S&E support over the 30-year period basically mirrored the overall distribution for all institutions. For the remaining classifications—the 2-year, master's-granting, and baccalaureate-granting institutions—the emphasis also shifted toward R&D, but the focus was less concentrated. (See figure 7.) The R&D share of their support never reached as high as 80 percent, and in FY 2000, only about two-thirds of the funding for these institutions was for R&D and one-third was for "other S&E support."

The change in Federal funding emphasis between FY 1971 and FY 1983 resulted from a moderate increase in R&D support combined with a substantial decline in "other S&E support." The latter fell, in constant dollars, from about \$2.5 billion in FY 1971 to \$900 million in FY 1983 and then increased, stabilizing around \$2 billion in the 1990s; it has still not reached the levels of the early 1970s in constant dollars. (See appendix table 7.)

Percent 100 90 80 70 60 R&D-other Carnegie (not R, D, or MED) 50 "Other S&E"-other Carnegie (not R, D, or MED 40 30 20 10 "Other S&E"-Carnegie R, D, and MED 0 1971 1973 1981 1983 1985 1987 1989 1991 1993 1995 1997 1975 1977 1979 1999 2000 Fiscal year

Figure 7. Composition of Federal S&E support to academic institutions for two 1994 Carnegie groups of academic institutions, by type of support: FY 1971–2000

KEY: R = research; D = doctorate-granting; MED = medical

NOTES: S&E support includes R&D support (both R&D and R&D plant) and "other S&E support" (facilities and equipment for S&E instruction; fellowships, traineeships, and training grants; general support for S&E; and other S&E activities). Other Carnegie institutions include master's or comprehensive universities and colleges, baccalaureate or liberal arts colleges, 2-year colleges, professional schools and other specialized institutions, and any unclassified institutions of higher education.

⁸ Unless otherwise indicated, all references to dollars refer to 1996 constant dollars.

The decline in "other S&E support" was particularly dramatic in the category of fellowship, traineeship, and training grants, which fell from \$1.4 billion in FY 1971 to about \$275 million in FY 1983—almost a fivefold decrease in about a decade's time. After FY 1983, funding for this category exhibited a fairly steady increase, reaching a peak of just over \$800 million in FY 1999. Funding for the "other S&E support" category with the second highest level of Federal support in FY 1971—other S&E activities—fell from \$710 million to \$484 million in FY 1983, while combined funding for the two remaining "other S&E support" categories—facilities and equipment for S&E instruction and general support for S&Edecreased two-thirds, from \$429 to \$141 million, between FY 1971 and FY 1983. In contrast, Federal academic R&D support increased from about \$5.2 billion to \$7.4 billion during this same period. (See appendix table 8.)

Although "other S&E support" was never a large part of overall Federal S&E support for academic institutions during the period analyzed, the decline in both the share and level of such support had a disproportionate effect on institutions that were not classified as research, doctorate-granting, or medical. Many of these institutions lost any Federal support they may have had for their S&E activities during this period. The number of such institutions receiving support began to increase again in the latter part of the 1980s and the early 1990s, but it never reached the level of the early 1970s. It appears that only by developing an ability to compete for and obtain Federal R&D funds did many of the institutions that stopped receiving Federal S&E support during the 1970s and early 1980s regain such support. (See appendix table 2.) A number of Federal initiatives like EPSCoR, HBCU, and Tribal College programs, and S&E education programs for colleges and universities were created with the objective of improving capacity in these institutions.

FEDERAL AGENCIES PROVIDING ACADEMIC S&E SUPPORT

Seven Federal agencies—HHS, NSF, the Department of Defense (DOD), the Department of Energy (DOE), EPA, the National Aeronautics and Space Administration (NASA), and the USDA—are the main sources of Federal academic S&E funds. (See appendix table 7.) These seven agencies provided between 92 percent and 96 percent of all Federal academic S&E funding during the FY 1971–2000 period. However, although three of these agencies—HHS, NSF, and DOD—provided the bulk of the funds during most of this period, two of them—NSF and HHS—supported the greatest number of institutions. Consequently, the discussion in this section focuses primarily on HHS and NSF.

Number of institutions receiving S&E support.

Throughout almost the entire FY 1971–2000 period, NSF provided S&E support to the largest number of academic institutions; HHS supported the second largest number

of institutions. (See figure 8 and appendix table 9.)9 Between the early 1970s and the early 1980s, NSF had the greatest decline in number of institutions supported; the number supported by HHS also declined, but less dramatically. The number of NSF-supported institutions decreased from a peak of 940 in FY 1972 to a low of 395 in FY 1982, then increased to 834 by FY 1994, and then decreased once again, reaching 683 in FY 2000. HHS supported 580 institutions in FY 1972; the number decreased to 424 by FY 1984 and then began a generally upward trend, culminating in a high of 584 in FY 1999. Because NSF and HHS dominated Federal funding of academic S&E activity, the overall trend in the number

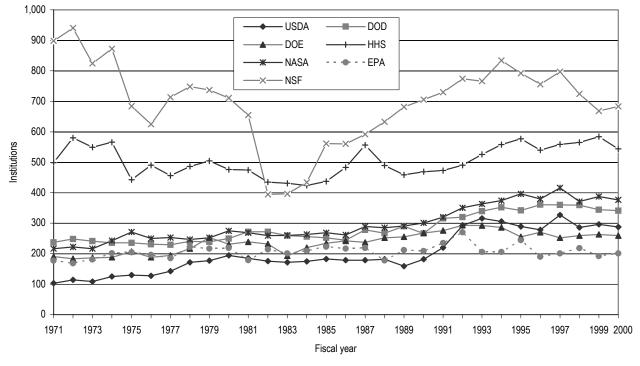


Figure 8. Number of academic institutions receiving Federal S&E support, by agency: FY 1971-2000

KEY: USDA = Department of Agriculture; DOD = Department of Defense; DOE = Department of Energy; HHS = Department of Health and Human Services; NASA = National Aeronautics and Space Administration; EPA = Environmental Protection Agency; NSF = National Science Foundation.

NOTE: S&E support includes R&D support (both R&D and R&D plant) and "other S&E support" (facilities and equipment for S&E instruction; fellowships, traineeships, and training grants; general support for S&E; and other S&E activities).

⁹ Before 1980, HHS was called the Department of Health, Education, and Welfare and included what is now the Department of Education.

of funded institutions closely tracked the combined pattern of changes for these two agencies. The other five major funding agencies, however, exhibited a different pattern. For each of these agencies, the number of funded institutions fluctuated considerably, but the general trend was upward. The total number of institutions supported by each of the other agencies was much smaller than the number supported by NSF and HHS.

Number of institutions receiving R&D support. During the FY 1971–2000 period, especially through the early to mid-1990s, the number of academic institutions receiving R&D support generally increased for all of the major Federal funding agencies. As with total S&E support, NSF generally provided R&D support to the largest number of institutions since the mid-1970s, followed by HHS. (See figure 9 and appendix table 9.) In FY 1994, NSF supported 686 institutions (the largest number it supported during the FY 1971–2000 period), compared with 427 supported by HHS. This gap between NSF and HHS narrowed during the rest of the 1990s; in FY 2000, NSF supported 535 institutions, HHS 469. The number of institutions provided with R&D support peaked in FY 2000 for HHS; for the other six funding agencies, the number

peaked some time during the 1990s and generally declined thereafter.

Number of institutions receiving "other S&E support." It was in this area of support that both NSF and HHS showed the greatest decline (in both relative and absolute terms) in the number of academic institutions funded between the early 1970s and early 1980s. NSF generally supported the largest number of institutions during the FY 1970–2000 period, except for several years in the early to mid-1980s when HHS supported a larger number. (See figure 10 and appendix table 9.) However, from the beginning of the 1970s to the early 1980s, the number of institutions receiving "other S&E support" from NSF declined dramatically, from about 900 to about 200; after FY 1983, the number began to increase, peaking at 563 in FY 1997, and then declined once again, reaching 457 in FY 2000. The decline at HHS between FY 1972 and FY 1984, from 475 to approximately 300 institutions, was not as dramatic; after FY 1987, the number fluctuated between 313 and 431 at HHS. Throughout the entire 30-year period, USDA, DOD, DOE, and EPA each provided fewer than 200 academic institutions with "other S&E support" in any

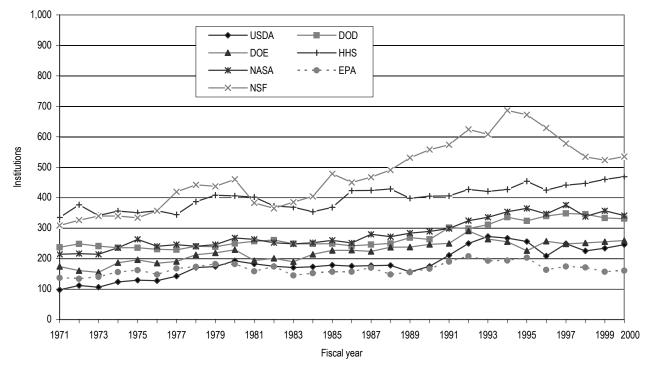


Figure 9. Number of academic institutions receiving Federal R&D support, by agency: FY 1971-2000

KEY: USDA = Department of Agriculture; DOD = Department of Defense; DOE = Department of Energy; HHS = Department of Health and Human Services; NASA = National Aeronautics and Space Administration; EPA = Environmental Protection Agency; NSF = National Science Foundation.

NOTE: R&D support includes support for both R&D and R&D plant.

given year; for NASA, the maximum number supported in any year was 242. For USDA, DOD, and NASA, the number supported generally increased over the 30-year period; for DOE, it generally decreased and none were reported supported in FY 2000.

Percentage of supported institutions receiving **R&D funding.** The increasing emphasis on Federal R&D support between the early 1970s and early 1980s, characterized by the increasing percentage of academic institutions receiving R&D support, appears to have been limited to NSF and HHS. In 1972, NSF provided R&D funding to about one-third of the 940 academic institutions it supported with S&E funds. (See appendix table 2.) In FY 1982, more than 90 percent of the institutions supported by NSF received R&D funding. In FY 1971, HHS provided R&D funding to 67 percent of the 499 institutions it supported. In FY 1982, 86 percent of the institutions supported by HHS received R&D funding. For the other major funding agencies, the percentage of supported institutions receiving R&D funding either decreased or showed no clear pattern during this period. For both NSF and HHS, the percentage of supported institutions that received R&D funding peaked during the 1980s. At NSF, although the percentage did not decline continuously thereafter, it was considerably lower than its peak by the end of the 30-year period. At HHS, several times in the 1990s, the percentage approached its peak.

Total institutions supported during FYs 1971–2000 and number of years institutions received support. Between FY 1971 and FY 2000, almost 2,000 academic institutions received some form of S&E support from NSF and about 1,200 received support from HHS. However, most of these institutions did not receive support continually throughout the period. (See figure 11.) For both NSF and HHS, most of the institutions supported received funding for less than half of the period (depending on the type of support being considered), and about half received funding for five years or less of the period. (See figure 12.) Only 23 percent of the institutions supported by NSF during FY 1971–2000 and 30 percent of those supported by HHS received funds from those agencies in more than 20 of the 30 years in the period.

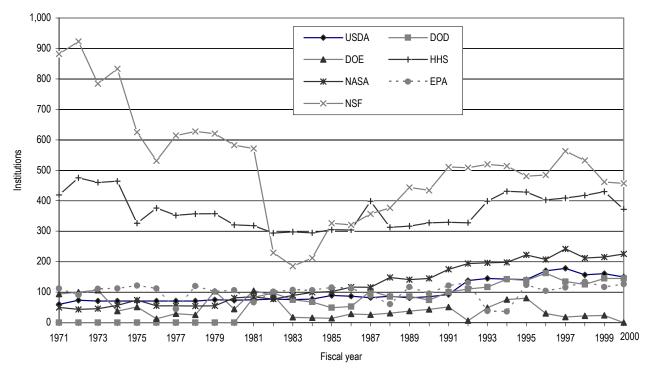


Figure 10. Number of academic institutions receiving Federal "other S&E support," by agency: FY 1971-2000

KEY: USDA = Department of Agriculture; DOD = Department of Defense; DOE = Department of Energy; HHS = Department of Health and Human Services; NASA = National Aeronautics and Space Administration; EPA = Environmental Protection Agency; NSF = National Science Foundation.

NOTE: Other S&E includes support for facilities and equipment for S&E instruction; fellowships, traineeships, and training grants; general support for S&E; and other S&E activities.

450 400 ■ HHS (n = 1,209) 350 ■ NSF (n = 1,977) 300 250 Institutions 200 150 100 50 20 13 14 15 16

Figure 11. Distribution of the academic institutions receiving HHS and NSF S&E support in FY 1971 to 2000, by number of years supported during the period

KEY: HHS = Department of Health and Human Services; NSF = National Science Foundation.

NOTE: S&E support includes R&D support (both R&D and R&D plant) and "other S&E support" (facilities and equipment for S&E instruction; fellowships, traineeships, and training grants; general support for S&E; and other S&E activities).

Years supported

SOURCE: National Science Foundation, Division of Science Resources Statistics, Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions, as reported in WebCASPAR data system (available at http://www.nsf.gov/sbe/srs/stats.htm).

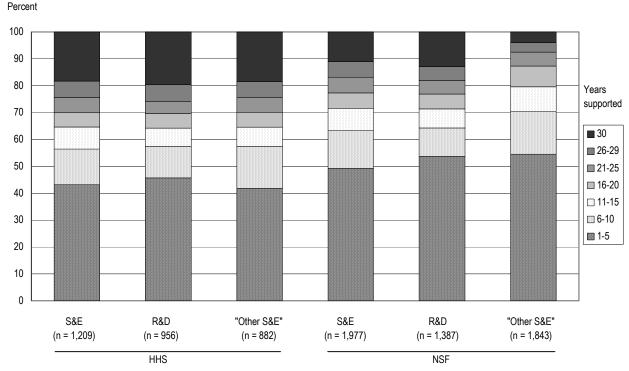
The other five major funding agencies supported considerably fewer institutions during this period, between approximately 650 and 750. (See appendix table 9.)

Shifts in funding for S&E support. The absolute constant dollar decline in "other S&E support" that occurred between the early 1970s and early 1980s occurred primarily at NSF and HHS. (See appendix table 7.) With the exception of USDA, the other funding agencies provided little support for these activities during the 1970s; DOD reported no funding in this area until FY 1981. During the FY 1971–2000 period, USDA provided between \$400 million and \$500 million in other S&E support in any given year. The large constant dollar decline in other S&E support for fellowships, traineeships, and training grants occurred mainly at HHS, where funding in this category decreased from a little more than \$1 billion in FY 1971 to \$231 million in FY 1982. (See appendix table 10.) At NSF, support in this category fell from \$141 million in FY 1971 to \$24 million in FY 1981. HHS and NSF provided almost all of the funding in this category. In the early 1970s, NSF funding also declined substantially in the general support for S&E category,

decreasing from \$190 million in FY 1971 to no funding at all in FY 1975. NSF support in this category ranged from \$34 million to \$57 million between FY 1976 and FY 1981 and then declined to \$5 million in FY 1982; after FY 1982, NSF never provided more than \$15 million of funding in this category in any given year.

As noted previously, the balance between R&D support and other S&E support changed during the FY 1971-2000 period. The nature of these changes, however, differed across the major Federal funding agencies. At NSF, the share of funds destined for R&D increased between FY 1971 and FY 1983 from 58 percent to 96 percent and then declined, reaching 84 percent in FY 1999. (See appendix table 6.) At HHS, the share of S&E funds directed to R&D increased throughout almost the entire period, from 66 percent in FY 1971 to 91 percent in FY 1983 and then to 93 percent in FY 1992 and in most years thereafter. At both DOD and NASA, the R&D portion of S&E support generally declined over the period, from close to 100 percent to around 90 percent. At DOE, the pattern was more erratic, with the R&D share of S&E funds fluctuating between 94 percent and

Figure 12. Distribution of academic institutions receiving HHS and NSF S&E support in FY 1971 to 2000, by number of years supported during the period, by type of support



Type of support and agency

KEY: HHS = Department of Health and Human Services; NSF = National Science Foundation.

NOTE: S&E support includes R&D support (both R&D and R&D plant) and "other S&E support" (facilities and equipment for S&E instruction; fellowships, traineeships, and training grants; general support for S&E; and other S&E activities).

SOURCE: National Science Foundation, Division of Science Resources Statistics, Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions, as reported in WebCASPAR data system (available at http://www.nsf.gov/sbe/srs/stats.htm).

100 percent. EPA generally increased the R&D portion of its support during the 1970s and 1980s, from 63 percent in FY 1971 to 97 percent in FY 1988; the R&D share of support at EPA hovered around the 90 percent level after FY 1988. At USDA, the R&D share of S&E funds was lower than at any other major funding agency, although this share generally rose over the years, from 35 percent in FY 1971 to 52 percent in FY 2000.

R&D support to Carnegie groups. The share of Federal R&D funds going to the different Carnegie groups of institutions differed among the major funding agencies. As indicated previously, between 94 percent and 97 percent of all Federal R&D funding during the FY 1971–2000 period went to research, doctorate-granting, and medical institutions. For HHS and DOE, the share of R&D funding going to these institutions tended to be

larger than the average for all the major funding agencies; for the other major agencies, the share tended to be smaller. (See appendix table 4.) For every agency except DOD, the research, doctorate-granting, and medical institutions received a slightly smaller share of R&D funds by FY 2000 than they did at the beginning of the 30-year period. However, HHS, DOE, and DOD still directed between 94 and 97 percent of their R&D funds to these institutions in FY 2000 compared with 90 percent or less for NSF, NASA, USDA, and EPA.

"Other S&E support" to Carnegie groups. The share of "other S&E support" going to the different Carnegie classes of institutions also differed among the major funding agencies. As mentioned previously, the overall share of this support going to research, doctorate-granting, and medical institutions declined

10 percentage points between FY 1971 and FY 2000, from 91 percent to 81 percent. There was considerable movement in the shares provided by each agency to these institutions over the course of the 30-year period. For HHS, USDA, and DOD, the share generally was larger than the average for all agencies; for NSF and NASA,

the share generally was smaller; and for DOE and EPA, the share did not follow a consistent pattern. For most agencies, the share of "other S&E support" going to research, doctorate-granting, and medical institutions was smaller in FY 2000 than at the beginning of the 30-year period. (See appendix table 4.)

Conclusion

The past three decades have seen changes in both the composition and distribution of Federal support for academic S&E activity. There have been both an absolute and a relative shift in emphasis toward R&D support and away from "other S&E support." Consequently, academic institutions receiving Federal S&E support today are much more likely to be receiving R&D support than they were 30 years ago. Accompanying this shift in emphasis has been a dramatic decline in the number of

institutions—primarily 2-year, master's-granting, and baccalaureate-granting institutions—receiving Federal S&E support between the beginning and end of the period. Although this decline began to reverse midway through the period, fewer institutions were supported in FY 2000 than in the early 1970s. It appears that only by improving their capacity to compete for and obtain R&D funds were institutions able to regain the Federal S&E support lost in the 1970s and early 1980s.

TECHNICAL NOTE

Any academic institution reported as receiving Federal S&E support in the annual Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions during the 1971–2000 period is included in this study. To the extent possible, duplicate institutions were combined into one institution to prevent double counting. For descriptive purposes, all institutions have been assigned to their 1994 Carnegie classification. If an institution was not classified in 1994, either because it did not fit into one of the Carnegie classes or because it did not exist at that time, it was included in other. A number of institutions, particularly 2-year institutions, did not exist for at least part of the period prior to

1994 and some may have closed or merged after 1994. Table 244 in the National Center for Education Statistics' *Digest of Education Statistics: 2001* indicates that the number of 2-year institutions may have increased by more than 30 percent between 1971 and 2000. For comparison purposes, the number of institutions listed in each of the Carnegie categories is generally the number reported by Carnegie in that category in 1994. The numbers of institutions in the groups that are the main recipients of Federal S&E support—the research, doctorategranting, and freestanding medical institutions—probably have not varied much, if at all, during the 30-year period.

APPENDIX A. FEDERAL S&E SUPPORT TO HISTORICALLY BLACK COLLEGES AND UNIVERSITIES

The number of historically black colleges and universities (HBCUs) receiving Federal S&E support decreased about one-quarter—from 79 to 59—between the early 1970s and early 1980s. (See figure A-1.) This trend was less dramatic for HBCUs than for academic institutions as a whole. (See figure 1.) The number of HBCUs receiving only "other S&E support" also decreased during this period. In the mid-1980s, the number of HBCUs receiving Federal R&D support and the number receiving "other S&E support" both began to increase, although it was not until the mid-1990s that the total number supported reached the level of the early 1970s.

Although Federal S&E support was intermittent for most HBCUs, more than 40 percent of the 102 HBCUs

supported during FYs 1971–2000 received funding in every year, and nearly 60 percent received it in more than 20 years. ¹⁰ (See figure A-2.) However, only 93 HBCUs received Federal R&D funding during the 30-year period, and only about 40 percent of those received it in more than 20 years.

Throughout the FY 1971–2000 period, the share of total S&E support directed to R&D was lower for HBCUs than for the academic sector as a whole. For

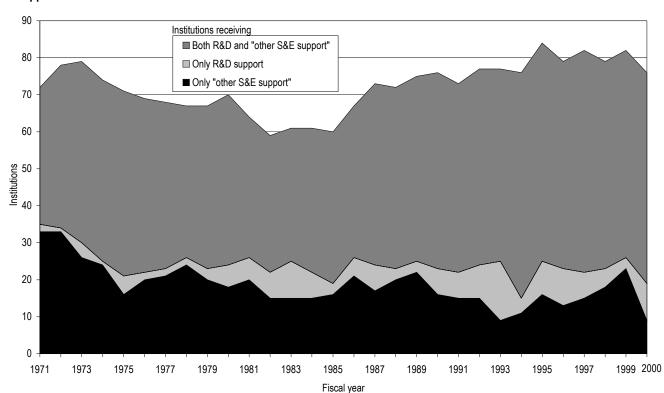
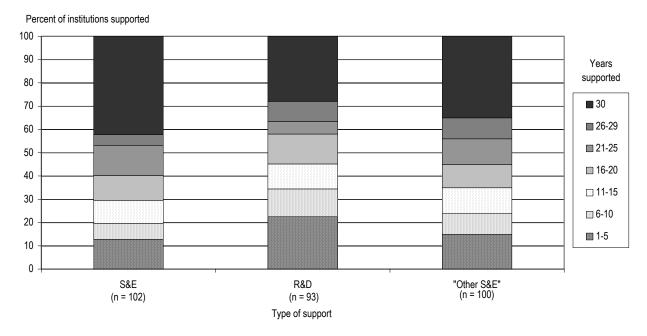


Figure A-1. Number of Historically Black Colleges and Universities receiving Federal S&E support, by type of support: FY 1971–2000

NOTE: S&E support includes R&D support (both R&D and R&D plant) and "other S&E support" (facilities and equipment for S&E instruction; fellowships, traineeships, and training grants; general support for S&E; and other S&E activities).

¹⁰ Although the WebCASPAR data system identifies 107 historically black colleges and universities, 3 are separate campuses of Southern University, which is consolidated in the Federal Support Survey. Consequently, only three HBCUs never received Federal S&E support during the FY 1971–2000 period.

Figure A-2. Distribution of Historically Black Colleges and Universities receiving Federal S&E support in FY 1971 to 2000, by number of years supported during the period, by type of support



NOTE: S&E support includes R&D support (both R&D and R&D plant) and "other S&E support" (facilities and equipment for S&E instruction; fellowships, traineeships, and training grants; general support for S&E; and other S&E activities).

SOURCE: National Science Foundation, Division of Science Resources Statistics, Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions, as reported in WebCASPAR data system (available at https://www.nsf.gov/sbe/srs/stats.htm).

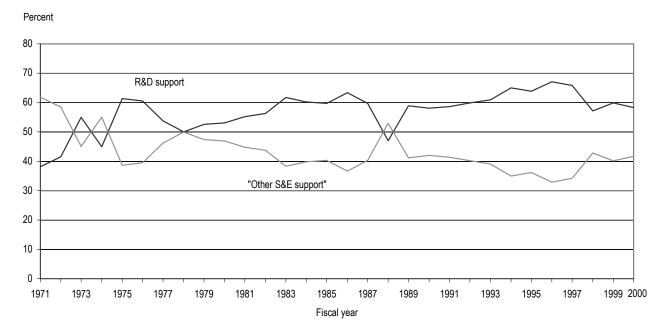
most of the period, about 60 percent of Federal S&E support for HBCUs was for R&D. In addition, the increase in the R&D share was less pronounced for HBCUs and occurred earlier. (See figure A-3 and figure 7.)

Although the HBCU share of Federal total S&E and R&D support was never large and did not change much during the FY 1971-2000 period, the share of Federal "other S&E support" rose steeply during the period. (See figure A-4.) The HBCU share of overall Federal S&E support hovered around 2 percent between 1971 and 2000. The share of R&D support increased from about 1 percent during the 1970s and 1980s to a high of 1.7 percent in FY 1995 and then declined to just a little more than 1 percent in FY 2000. The HBCU share of "other S&E support," however, increased from about 3 percent in the first half of the 1970s to about 6 percent in the second half of the 1990s. This share increase resulted from a doubling in the amount of funds provided to HBCUs for "other S&E support," while funding in this category barely changed for the academic sector as a whole. (See text table A-1).

Whereas HHS and NSF were the two main Federal sources of S&E support for the academic sector overall during almost the entire FY 1971-2000 period (see appendix table 1), the two main funding sources for HBCUs were USDA and HHS. (See text table A-2) One reason that USDA may provide proportionately more support to HBCUs than it does to academic institutions as a whole is that in 1890 the U.S. Congress created 18 Black land-grant colleges under the Morrill Act of 1862 to teach agriculture and the mechanic (engineering) arts at public universities in a number of southern states. All of these 1890 land grant institutions are current HBCUs.¹¹ During the 1970s and 1980s, USDA provided more than 40 percent of all Federal S&E support to HBCUs and HHS about 30 percent. During the 1990s, support to HBCUs was less concentrated, with USDA and HHS each providing just a little more than a quarter of the funds and three other agencies (NSF, DOD, and NASA) each providing 10 percent or more.

¹¹ For more information about the Morrill Act see http://www.reeusda.gov/1890/and http://www.nasulgc.org/1890/Profile.htm.

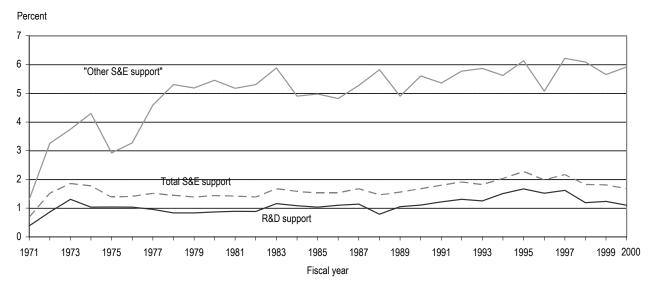
Figure A-3. Composition of Federal S&E support to Historically Black Colleges and Universities, by type of support: FY 1971–2000



NOTE: S&E support includes R&D support (both R&D and R&D plant) and "other S&E support" (facilities and equipment for S&E instruction; fellowships, traineeships, and training grants; general support for S&E; and other S&E activities).

SOURCE: National Science Foundation, Division of Science Resources Statistics, Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions, as reported in WebCASPAR data system (available at http://www.nsf.gov/sbe/srs/stats.htm).

Figure A-4. Share of Federal S&E support to academic institutions received by Historically Black Colleges and Universities, by type of support: FY 1971–2000



NOTE: S&E support includes R&D support (both R&D and R&D plant) and "other S&E support" (facilities and equipment for S&E instruction; fellowships, traineeships, and training grants; general support for S&E; and other S&E activities).

Table A-1. Federal "other S&E support" to Historically Black Colleges and Universities and to all academic institutions FY 1971–2000

(millions of 1996 constant dollars)

Period	Historically Black Colleges and Universities	All academic institutions
1971–1975	57	1,920
1976–1980	54	1,133
1981–1985	54	1,036
1986–1990	76	1,441
1991–1995	105	1,832
1996–2000	116	2,005

NOTE: "Other S&E support" includes support for facilities and equipment for S&E instruction; fellowships, traineeships, and training grants; general support for S&E; and other S&E activities.

SOURCES: National Science Foundation, Division of Science Resources Statistics, Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions; and WebCASPAR data system (available at http://www.nsf.gov/sbe/srs/stats.htm).

Table A-2. Federal S&E support to Historically Black Colleges and Universities, percent by funding agency: FY 1971–2000

(10 year averages)

Agency	1971–1980	1981–1990	1991–2000
Total	100	100	100
HHS	31	29	26
NSF	14	5	10
USDA	42	45	28
DOD	1	5	11
DOE	1	3	4
EPA	1	1	1
NASA	5	6	14

KEY: HHS = Department of Health and Human Services; NSF = National Science Foundation; USDA = Department of Agriculture; DOD = Department of Defense; DOE = Department of Energy; EPA = Environmental Protection Agency; NASA = National Aeronautics and Space Administration.

NOTES: S&E includes R&D support (both the conduct of R&D and R&D plant) and "other S&E support" (facilities and equipment for S&E instruction; fellowships, traineeships, and training grants; general support for S&E; and other S&E activities).

APPENDIX B. STATISICAL TABLES

Appendix table 1. Number of academic institutions with Federal S&E support, by type of support and 1994 Carnegie code: FY 1971–2000

Page 1 of 3

Fiscal	All		Research,	doctorato	arantina ar	nd modical	I				All other in	netitutione	Р	age 1 of 3
	institutions	Total	Research,	R2	granung, ar D1	D2	MED	2YR	Total	C1	C2	LA1	LA2	Other
year Total S&E	IIISULUIIOIIS	TOtal	KI	NZ	DI	DZ	IVILD	ZIK	Total	O1	02	LAI	LAZ	Other
1971	1,248	258	89	37	51	51	30	230	760	326	45	128	185	76
1972	1,378	259	89	37	51	52	30	282	837	338	57	131	217	94
1973	1,199	257	89	37	50	52	29	215	727	309	44	122	176	76
1974	1,043	261	89	37	51	51	33	140	642	285	38	113	144	62
1975	1,004	255	89	37	49	50	30	129	620	288	40	105	136	51
1976	840	256	89	37	48	52	30	82	502	248	30	92	90	42
1977	912	257	89	37	50	50	31	120	535	260	34	88	101	52
1978	940	257	89	37	49	51	31	110	573	276	30	105	108	54
1979	928	259	89	37	50	51	32	102	567	278	32	103	104	50
1980	890	256	89	37	48	52	30	84	550	261	33	100	111	45
1981	869	258	89	37	48	52	32	82	529	253	33	100	109	34
1982	680	256	89	37	48	50	32	43	381	202	24	64	56	35
1983	674	258	89	37	49	52	31	44	372	199	18	64	56	35
1984	694	258	89	37	48	52	32	45	391	205	23	70	59	34
1985	770	260	89	37	48	53	33	37	473	242	28	100	67	36
1986	794	259	89	37	48	51	34	44	491	233	33	95	85	45
1987	1,031	262	89	37	50	53	33	145	624	284	41	109	132	58
1988	994	263	89	37	50	54	33	136	595	291	39	101	112	52
1989	1,048	263	89	37	51	54	32	178	607	286	42	104	113	62
1990	1,005	263	89	37	50	54	33	130	612	281	49	108	115	59
1991	1,111	261	89	37	48	54	33	155	695	311	43	117	149	75
1992 1993	1,188	264	89	37	49	54 54	35	197	727	326	50	134	143	74 59
1993	1,122	264	89 90	37	48	54 53	36	180 197	678	311	43	122	143	59 72
1994	1,141 1,131	262 263	89 89	37 37	48 49	53 53	35 35	167	682 701	313 318	48 44	118 115	131 140	84
1996	1,131	264	89	37	50	53	35	156	667	298	45	104	125	95
1997	1,143	264	89	37	49	54	35	175	704	313	41	114	140	96
1998	1,082	266	89	37	51	54	35	151	665	301	35	112	120	97
1999	1,092	263	89	37	49	53	35	151	678	318	36	99	127	98
2000	1,046	265	89	37	49	53	37	139	642	290	39	100	120	93
R&D	,													
1971	852	251	89	37	47	49	29	23	289	150	15	63	36	25
1972	946	249	89	37	49	48	26	39	329	166	16	70	47	30
1973	807	246	89	37	47	46	27	15	273	142	13	52	39	27
1974	824	247	89	37	47	44	30	23	277	145	13	58	35	26
1975	848	250	89	37	47	48	29	18	290	153	15	50	47	25
1976	875	252	89	37	46	50	30	17	303	168	16	53	36	30
1977	953	250	89	37	47	47	30	31	336	182	17	61	42	34
1978	1,038	252	89	37	46	49	31	58	364	190	13	69	53	39
1979	1,036	255	89	37	49	48	32	35	373	194	18	71	57	33

Appendix table 1. Number of academic institutions with Federal S&E support, by type of support and 1994 Carnegie code: FY 1971–2000

Page 2 of 3

Fiscal	All		Dosoarch	doctorato	granting, ar	nd modical	I				All other in	actitutions	P	age 2 of 3
year	institutions	Total	R1	R2	D1	D2	MED	2YR	Total	C1	C2	LA1	LA2	Other
1980	1,075	253	89	37	46	51	30	38	392	203	20	80	60	29
1981	967	256	89	37	47	52	31	15	348	188	20	69	48	23
1982	903	254	89	37	47	50	31	15	317	172	21	62	35	27
1983	925	257	89	37	48	52	31	18	325	179	15	64	37	30
1984	929	256	89	37	47	52	31	19	327	173	19	69	37	29
1985	1,015	259	89	37	48	52	33	18	369	199	21	83	39	27
1986	1,017	259	89	37	48	51	34	24	367	190	22	73	42	40
1987	1,197	261	89	37	49	53	33	70	433	210	29	84	69	41
1988	1,075	261	89	37	49	53	33	34	390	199	26	80	51	34
1989	1,130	261	89	37	50	53	32	41	414	214	25	78	56	41
1990	1,185	261	89	37	49	53	33	50	437	217	30	87	66	37
1991	1,236	260	89	37	48	53	33	58	459	215	26	91	72	55
1992	1,344	263	89	37	49	53	35	71	505	246	31	105	75	48
1993	1,415	262	89	37	48	53	35	105	524	252	28	98	97	49
1994	1,434	262	89	37	48	53	35	118	527	250	36	100	90	51
1995	1,437	263	89	37	49	53	35	102	536	241	36	97	98	64
1996	1,343	263	89	37	50	52	35	80	500	235	32	93	82	58
1997	1,360	263	89	37	48	54	35	65	516	237	23	99	92	65
1998	1,284	265	89	37	50	54	35	39	490	240	19	97	75 74	59
1999 2000	1,286	263 264	89 89	37 37	49 49	53 52	35 37	33 56	495 494	252	25 19	90 89	74 83	54 59
"Other S&E"	1,308	204	09	31	49	52	31	30	494	244	19	09	03	59
1971	1,951	255	89	37	50	50	29	224	736	317	43	126	180	70
1972	2,136	258	89	37	51	51	30	266	806	330	55	124	208	89
1973	1,839	256	89	37	50	52	28	205	689	295	43	117	170	64
1974	1,585	259	89	37	51	49	33	124	601	272	38	103	137	51
1975	1,476	250	89	37	48	47	29	118	554	264	37	93	122	38
1976	1,131	248	89	37	46	49	27	69	407	204	27	74	75	27
1977	1,185	251	89	37	47	48	30	96	419	211	28	71	80	29
1978	1,205	249	89	37	47	46	30	68	444	228	29	81	76	30
1979	1,198	252	89	36	48	48	31	72	437	229	28	78	73	29
1980	1,077	245	89	36	45	45	30	52	390	199	25	64	75	27
1981	1,106	243	89	37	44	43	30	67	398	202	25	69	83	19
1982	639	232	89	37	39	37	30	31	188	110	10	15	36	17
1983	586	231	89	37	37	40	28	29	163	95	10	13	31	14
1984	635	231	89	37	38	37	30	28	188	115	11	12	36	14
1985	870	222	89	37	31	37	28	24	312	155	20	66	49	22
1986	854	225	89	37	33	37	29	23	303	144	20	56	62	21
1987	1,273	247	89	37	46	45	30	96	465	227	28	80	98	32
1988	1,310	252	89	37	48	48	30	112	473	243	25	74	97	34
1989	1,357	251	89	37	46	49	30	154	476	240	30	77	91	38

Appendix table 1. Number of academic institutions with Federal S&E support, by type of support and 1994 Carnegie code: FY 1971–2000

Page 3 of 3

Fiscal	All		Research,	doctorate-	granting, a	nd medical					All other i	nstitutions		<u> </u>
year	institutions	Total	R1	R2	D1	D2	MED	2YR	Total	C1	C2	LA1	LA2	Other
1990	1,274	256	89	37	49	51	30	90	464	230	34	77	85	38
1991	1,504	256	89	37	47	53	30	112	568	277	32	97	114	48
1992	1,599	257	89	37	47	54	30	150	596	278	41	110	117	50
1993	1,322	255	89	37	44	52	33	99	484	254	29	89	77	35
1994	1,341	255	89	37	46	49	34	118	484	250	31	76	80	47
1995	1,368	257	89	37	46	52	33	99	506	265	26	74	88	53
1996	1,306	257	89	37	45	52	34	99	475	247	33	51	82	62
1997	1,457	254	89	36	45	51	33	135	534	270	36	70	92	66
1998	1,367	257	89	37	45	53	33	126	492	247	29	68	84	64
1999	1,400	254	89	37	45	51	32	130	508	266	27	53	90	72
2000	1,257	252	89	37	44	51	31	99	453	219	36	54	75	69

KEY: R1 = research 1 universities; R2 = research 2 universities 2; D1 = doctorate-granting 1 institutions; D2 = doctorate-granting 2 institutions; MED = free standing medical schools; 2YR = 2-year institutions; C1 = master's or comprehensive universities and colleges 1; C2 = master's or comprehensive universities 2; LA1 = baccalaureate or liberal arts colleges 1; LA2 = baccalaureate colleges 2; other = professional schools and other specialized institutions and any unclassified institutions

NOTES: S&E support includes both R&D support and "other S&E support." R&D support includes support for both R&D and R&D plant. "Other S&E support" includes support for facilities and equipment for S&E instruction; fellowships, traineeships, and training grants; general support for S&E; and other S&E activities. See appendix A for definition of Carnegie classifications.

Appendix table 2. Percentage of academic institutions with Federal S&E support receiving R&D support, by funding agency: FY 1971–2000

Fiscal year	All Federal	HHS	NSF	USDA	DOD	DOE	EPA	NASA
1971	45	67	34	95	100	91	77	99
1972	45	65	35	98	100	88	79	98
1973	45	62	41	97	100	83	77	99
1974	52	63	39	99	100	99	77	97
1975	56	79	49	99	100	95	79	97
1976	68	73	57	100	100	98	76	96
1977	68	75	59	100	100	98	91	97
1978	72	80	59	99	100	98	78	97
1979	71	81	59	98	100	87	84	98
1980	77	85	65	99	100	99	83	97
1981	71	85	58	99	94	81	88	98
1982	86	86	92	99	96	87	81	97
1983	89	86	97	99	96	98	72	95
1984	87	83	93	99	97	97	72	96
1985	84	84	85	98	99	97	70	97
1986	82	88	80	98	99	94	72	96
1987	74	76	79	99	88	95	78	97
1988	69	88	78	98	94	94	83	95
1989	68	87	78	99	93	93	73	98
1990	74	86	79	96	99	92	80	96
1991	70	86	79	96	96	91	81	93
1992	71	87	81	86	93	99	77	93
1993	79	80	79	86	91	90	94	93
1994	79	77	82	87	95	89	94	95
1995	80	79	85	89	95	89	83	92
1996	78	79	83	75	94	95	86	91
1997	74	79	73	76	97	98	87	90
1998	73	79	74	79	96	97	78	91
1999	72	79	78	79	97	97	82	92
2000	78	86	78	85	97	100	80	90

KEY: HHS = Department of Health and Human Services; NSF = National Science Foundation; USDA = Department of Agriculture; DOD = Department of Defense; DOE = Department of Energy; EPA = Environmental Protection Agency; NASA = National Aeronautics and Space Administration

NOTES: R&D support includes support for both R&D and R&D plant. S&E support includes both R&D support and "other S&E support" (facilities and equipment for S&E instruction; fellowships, traineeships, and training grants; general support for S&E; and other S&E activities).

Appendix table 3. Total number of academic institutions receiving Federal S&E support in FY 1971 to 2000, by number of years supported during the period, type of support, and selected 1994 Carnegie classification

Page 1 of 3

Years								Ī		l I	ı	Page 1 of 3
	Total	R1	D2	D1	D2	MED	2VD	C1	C2	LA1	LA2	Other
supported Total S&E	Total	KI	R2	D1	DZ	MED	2YR	CI	62	LAI	LAZ	Other
	327	0	0	1	0	2	175	5	2	4	51	87
1 2	191	0	0	0	0	2	102	7		4	35	39
3	192	0	0	0	0	1	102	1	3	0	42	40
4	144	0	0	0	1	0	76	7	J 1	4	24	28
5	124	0	0	0	0	0	67	13	5	1	22	16
6	119	0	0	0	1	1	54	11	6	1	26	16
7	111	0	0	1	0	0	53	11	1	1	21	20
8	71	0	0	0	0	0	35	11	2	5	10	8
9	58	0	0	0	0	0	19	6	2	4	19	8
10	62	0	0	0	0	1	27	9	1	7	11	6
11	56	0	0	0	0	0	21	8	7	2	12	6
12	41	0	0	0	0	0	12	8	2	5	5	9
13	58	0	0	0	0	0	15	16	6	4	12	5
14	27	0	0	0	0	1	4	8	1	1	9	3
15	42	0	0	0	0	0	4	15	2	4	13	4
16	35	0	0	0	0	0	6	8	1	7	10	3
17	31	0	0	1	0	0	5	8	5	8	3	1
18	32	0	0	0	0	3	0	10	3	5	8	3
19	30	0	0	0	0	1	4	11	0	6	8	0
20	46	0	0	0	1	0	5	22	2	7	8	1
21	25	0	0	0	0	1	2	11	2	6	3	0
22	28	0	0	0	0	0	4	11	2	7	3	1
23	24	0	0	0	1	1	1	11	3	2	4	1
24	36	0	0	1	0	1	2	16	2	7	7	0
25	25	0	0	0	0	0	1	15	1	4	4	0
26	20	0	0	1	0	0	0	11	1	4	1	2
27	30	0	0	1	1	2	0	17	1	4	2	2
28	32	0	0	1	2	0	1	16	0	8	3	1
29	49	0	0	3	4	2	0	26	2	/	2	3
30	385	89	37	42	44	23	000	90	7	30	15	8
Any support	2451	89	37	52	55	42	800	419	84	159	393	321
R&D												
1	416	0	0	0	0	1	219	25	12	3	68	88
2	192	0	0	0	1	3	99	15	4	3	35	32
3	142	0	0	0	0	0	60	9	5	8	39	21
4	113	0	0	0	0	0	40	16	5	9	27	16
5	83	0	0	1	0	1	23	19	7	6	19	7
6	62	0	0	1	0	0	18	17	2	5	12	7
7	50	0	0	0	0	1	10	13	2	4	13	7
8	26 20	0	0	0	0	0	3	9	4	4	5	1
9	38	0	0	0	0	0	5	14	0	4	11	4
10	43 35	0	0	0	0	0	2	10	3	6	12 6	10
11	35 35	0	0	0	0	0	2	13	1	8	6	5
12	35	0	0	0	0	0	2	22	1	5	2	3

Appendix table 3. Total number of academic institutions receiving Federal S&E support in FY 1971 to 2000, by number of years supported during the period, type of support, and selected 1994 Carnegie classification

Page 2 of 3

V								T			1	Page 2 of 3
Years	Tatal	D4	DO	D4	DO	MED	OVD.	01	00	1.44	1.40	045
supported	Total 20	R1 0	R2 0	D1 0	D2 0	MED 0	2YR	C1 2	C2 4	LA1 5	LA2 6	Other 2
13 14	21	0	0	0	0	1	1	11	4	3	2	4
	15	0	0	0	0	0	1	6	0	4	1	1
15 16		0	0	0	1	1	2	14	1	5	2	0
	26 27	0	0	0	1	1	1		1	0	3	3
17	27	0	0	0	0	1	1	11 9	0	4	4	3 2
18	20	0	0	1	0	0	0	-	0	ა ე	4	0
19	13 15	0	0	1	0	0	0	6	0	2	4	0
20	27	0	0	1	1	0	1	11 10	0	1	6	1
21	20	0	0	1	0	0	1		2	4	0	1
22 23		0	0	1	0	1	1	13 9	0	4	0	1
24	17 9	0	0	0	ى 0	1	0	-	0	4	1	1
25	9 17	0	0	0	0	0	0	6 11	1	1	1	1
26	18	0	0	0	1	0	0	9	1	3	1	2
	28	0	0	0	1	0	1	11	1	4	1	4
27 28	16	0	0	0	1	0	0	7	1	3	1	2
29	27	0	0	3		0	0	,	1	5	1	0
		90	37	40	20	22	0	54	1	19	2	6
30	313	89 89	37 37	51	39 54	41	491	391	67		200	005
Any support	1,884	09	31	51	54	41	491	391	07	148	290	225
"Other S&E"												
1	315	0	0	1	0	2	177	6	3	5	55	66
2	213	0	0	0	0	0	120	8	7	1	39	38
3	171	0	0	0	0	1	90	6	1	5	37	31
4	176	0	0	1	1	1	87	15	9	5	34	23
5	146	0	0	0	1	0	65	20	5	5	35	15
6	96	0	0	1	0	2	37	10	7	11	20	8
7	102	0	0	0	0	0	37	24	5	7	13	16
8	69	0	0	0	0	0	28	12	4	4	14	7
9	62	0	0	0	0	0	16	9	4	6	17	10
10	68	0	0	0	0	0	21	13	5	8	15	6
11	59	0	0	0	0	1	11	17	6	10	9	5
12	41	0	0	0	1	0	8	9	3	10	9	1
13	51	0	0	0	0	0	/	23	2	5	9	5
14	25	0	0	2	0	0	3	/	1	4	5	3
15	37	0	0	0	0	0	4	15	2	8	7	1
16	33	0	0	0	0	0	2	16	2	8	5	0
17	30	0	0	1	1	2	2	12	4	5	3	0
18	31	0	0	0	0	1	4	13	0	6	6	1
19	25	0	0	0	1	0	2	15	2	4	1	0
20	34	0	0	0	1	0	1	16	0	7	6	3
21	21	0	0	1	1	2	1	11	0	2	3	0
22	25	0	0	0	2	0	1	12	1	6	2	1
23	30	0	0	1	4	1	1	13	1	5	3	1
24	24	0	0	0	1	0	1	14	1	5	1	1
25	34	0	0	5	3	0	0	14	1	7	4	0

Appendix table 3. Total number of academic institutions receiving Federal S&E support in FY 1971 to 2000, by number of years supported during the period, type of support, and selected 1994 Carnegie classification

Page 3 of 3

Years												
supported	Total	R1	R2	D1	D2	MED	2YR	C1	C2	LA1	LA2	Other
26	32	0	0	4	5	1	0	15	0	3	1	3
27	35	0	0	5	7	2	0	14	1	4	2	0
28	17	0	1	6	0	0	0	7	0	2	1	0
29	33	0	1	4	5	4	0	12	1	0	3	3
30	235	89	35	20	21	19	0	38	5	1	7	0
Any support	2,270	89	37	52	55	39	726	416	83	159	366	248

KEY: R1 = research 1 universities; R2 = research 2 universities 2; D1 = doctorate-granting 1 institutions; D2 = doctorate-granting 2 institutions; MED = free standing medical schools 2YR = 2-year institutions; C1 = master's or comprehensive universities 2; LA1 = baccalaureate or liberal arts colleges 1; LA2 = baccalaureate colleges 2; other = professional schools and other specialized institutions and any unclassified institutions

NOTES: S&E support includes both R&D support and "other S&E support." R&D support includes support for both R&D and R&D plant. "Other S&E support" includes support for facilities and equipment for S&E instruction; fellowships, traineeships, and training grants; general support for S&E; and other S&E activities.

Appendix table 4. Percentage share of Federal S&E support to 1994 Carnegie research, doctorate-granting, and medical institutions, by funding agency and type of support: FY 1971–2000

Page 1 of 3

								Page 1 of 3
Fiscal year	All agencies	HHS	NSF	USDA	DOD	DOE	EPA	NASA
Total S&E								
1971	94.8	98.3	89.2	97.8	92.6	98.6	93.9	97.1
1972	94.0	97.8	89.3	93.4	91.4	98.6	91.4	96.7
1973	95.1	97.9	92.1	91.9	92.6	98.7	90.3	95.0
1974	95.1	97.8	90.8	91.8	90.1	98.7	91.3	95.4
1975	95.7		93.2	92.7	89.7	97.8	90.9	94.4
		98.4						
1976	95.6	98.2	92.6	92.9	90.0	97.5	91.9	95.0
1977	94.8	98.1	91.6	90.4	87.7	96.9	92.7	93.6
1978	95.2	97.9	92.3	90.0	93.8	94.9	93.2	94.1
1979	95.2	97.8	92.6	89.9	94.8	94.0	94.1	94.4
1980	95.4	97.9	92.7	89.8	94.3	96.7	92.1	94.2
1981	95.4	98.1	92.9	90.1	94.8	96.8	90.0	94.8
1982	95.9	98.1	95.7	89.7	94.7	97.7	88.8	95.1
1983	95.7	98.1	95.4	88.2	94.9	98.1	87.2	94.0
1984	95.3	98.1	94.6	88.7	93.9	97.6	88.5	93.8
1985	95.9	98.2	94.3	88.9	95.4	98.0	92.6	94.8
1986	95.8	97.9	94.3	88.7	95.4	97.6	89.6	94.1
1987	95.2	98.0	94.5	88.4	95.4	97.6	90.1	94.2
1988	95.3	98.0	93.8	89.0	95.1	96.6	89.1	93.8
1989	94.8	98.2	92.6	89.1	92.9	97.0	88.1	94.5
1990	94.9	98.2	91.6	88.4	95.4	96.3	85.8	92.5
1990								
	94.2	97.2	91.4	88.8	93.6	95.5	86.2	90.9
1992	93.6	96.7	91.3	88.3	93.1	95.8	86.0	88.6
1993	93.6	96.7	91.6	88.4	91.5	96.7	86.2	87.4
1994	93.4	96.6	90.0	87.9	92.5	95.5	89.2	87.8
1995	93.1	96.4	90.4	86.4	92.5	95.6	90.2	85.8
1996	93.7	96.9	90.6	86.2	92.7	94.8	91.6	88.1
1997	93.4	96.8	89.3	87.3	93.2	95.2	90.0	86.4
1998	93.1	96.8	87.0	85.9	93.6	95.9	88.6	88.9
1999	92.9	96.8	87.8	87.1	93.6	95.4	82.3	88.5
2000	93.1	96.8	88.1	86.4	94.1	94.6	87.0	86.6
R&D								
1971	96.6	99.0	95.2	97.1	92.6	98.6	94.9	97.1
1972	95.8	98.6	94.1	89.1	91.4	98.7	91.8	
1973	96.3	99.0	95.2	87.1	92.6	98.8	91.4	
1974	96.1	98.9	94.0	86.6	90.1	98.7	91.7	96.0
1975	96.4	98.9	95.8	87.2	89.7	97.8	91.4	94.7
1976	96.4	98.9	95.4	87.5	90.0	97.5	92.8	95.8
1977	95.9	98.9	95.1	88.2	87.7	97.0	92.8	94.8
1978	96.3	98.7	95.8	90.0	93.8	95.0	94.1	95.1
1979	96.4	98.6	95.9	90.1	94.8	94.1	94.1	95.4
1980	96.5	98.7	95.4	89.8	94.3	97.1	92.9	94.9
1981	96.5	98.9	95.4	90.4	95.1	98.0	90.2	95.1
1982	96.6		95.7	89.5	94.9	97.9	89.9	95.5
1983	96.4	98.9	95.4	87.0	95.3	98.1	88.9	94.3
1984	96.1	99.0	95.1	85.9	93.2	97.8	88.8	
1507	30.1	33.0	33.1	03.9	33.2	31.0	00.0	34.4

Appendix table 4. Percentage share of Federal S&E support to 1994 Carnegie research, doctorate-granting, and medical institutions, by funding agency and type of support: FY 1971–2000

Page 2 of 3

1985									Page 2 of 3
1986	Fiscal year	All agencies	HHS	NSF	USDA	DOD	DOE	EPA	NASA
1987	1985	96.5	98.9	94.7	86.9	94.9	98.1	93.6	95.2
1988 96.6 98.6 94.2 89.6 95.2 96.7 89.8 94.1 1988 96.0 98.8 92.9 89.7 92.3 97.1 90.5 95.1 1990 96.0 98.8 91.9 89.6 95.0 96.5 85.8 93.1 1991 95.4 97.7 92.1 90.2 93.5 95.9 96.0 85.4 94.1 1992 95.0 97.2 91.5 90.6 92.9 96.0 85.4 94.1 1993 94.6 97.0 92.2 90.3 91.0 96.7 86.5 92.1 1994 94.6 97.1 88.6 89.8 33.0 95.8 89.3 91.1 1995 94.2 97.0 90.6 87.5 92.5 96.5 91.3 88.1 1996 94.7 97.5 90.6 86.9 92.6 95.2 91.8 91.1 1997 94.9 97.4 92.4 89.6 93.4 95.2 80.6 89.1 1999 94.8 97.2 90.3 88.1 93.0 95.8 89.3 91.1 1997 94.8 97.2 90.3 88.1 93.3 95.9 88.2 92.1 1999 94.6 97.4 90.0 88.1 93.3 95.9 88.2 92.1 1999 94.6 97.4 90.0 88.1 93.6 93.4 95.2 80.6 89.1 1999 94.8 97.3 90.0 88.1 93.6 93.4 95.2 80.6 89.1 1999 94.8 97.3 90.0 88.1 93.0 95.6 86.7 89.1 1972 88.1 97.3 90.0 88.1 93.9 94.6 86.7 89.1 1971 91.3 97.2 80.7 98.2 NA 98.4 92.1 95.1 1972 88.1 95.9 74.5 95.9 NA 96.5 90.2 92.1 1973 99.7 94.2 74.6 94.7 NA 96.1 87.9 88.1 1972 89.1 1974 91.9 94.5 77.10 94.9 NA 98.5 89.9 88.1 1975 92.6 95.9 96.9 96.1 NA 98.5 89.9 88.1 1975 92.6 95.9 96.9 96.1 NA 98.5 89.9 88.1 1975 92.6 95.9 96.9 96.1 NA 98.5 89.9 88.1 1977 88.5 92.9 66.7 92.0 NA 88.3 87.3 74.1 1978 88.5 92.9 66.7 92.0 NA 88.3 87.3 74.1 1978 88.5 92.9 66.7 92.0 NA 88.3 87.3 74.1 1978 88.5 92.9 66.7 92.0 NA 88.3 87.3 74.1 1978 87.5 90.1 1979 88.5 92.9 66.7 92.0 NA 88.3 87.3 74.1 1978 87.5 90.1 89.8 NA 92.3 94.1 71.1 1980 87.5 91.1 70.5 89.8 NA 92.3 94.1 71.6 89.8 198. 94.8 94.9 94.1 1971 198 87.5 91.1 70.5 89.8 NA 92.3 94.1 71.6 89.8 198 94.1 94.1 19	1986	96.3	98.6	94.6	86.8	95.0	97.7	91.1	94.4
1989	1987	96.2	98.7	94.9	86.8	95.3	97.7	90.5	94.9
1990 96.0 98.8 91.9 89.6 95.0 96.5 85.8 93.1 1991 95.4 97.7 92.1 90.2 93.5 95.9 86.3 92.1 1992 95.0 97.2 91.5 90.6 92.9 96.0 85.4 94.1 1993 94.6 97.0 92.2 90.3 91.0 96.7 86.5 92.1 1994 94.6 97.1 89.6 89.8 93.0 95.8 89.3 91.3 1995 94.2 97.0 90.6 87.5 92.5 96.5 91.3 88.1 1996 94.2 97.0 90.6 87.5 92.5 96.5 91.3 88.1 1997 94.9 97.4 92.4 89.6 93.4 95.2 89.6 89.1 1998 94.8 97.2 90.3 88.1 93.3 95.9 89.2 92.1 1999 94.6 97.4 90.0 88.1 93.3 95.9 89.2 92.1 1999 94.6 97.4 90.0 88.1 93.6 95.4 81.9 91.9 1997 94.9 97.4 90.0 88.1 93.6 95.4 81.9 91.9 1971 91.3 97.2 80.7 98.2 NA 96.5 95.2 91.8 1971 91.3 97.2 80.7 98.2 NA 96.5 90.2 92.1 1972 89.1 95.9 74.6 94.7 NA 96.5 90.2 92.1 1974 91.9 94.5 71.0 94.9 NA 96.5 80.9 92.1 1975 92.6 95.9 76.9 96.1 NA 96.5 80.9 92.1 1976 91.8 93.7 69.6 96.3 NA 96.7 84.9 87.7 1976 91.8 83.5 92.9 65.7 92.0 NA 88.3 87.7 90.1 1977 88.5 92.9 65.7 92.0 NA 88.3 87.3 74.1 1980 87.6 92.4 62.1 89.9 NA 89.6 88.3 87.3 74.1 1980 87.6 92.4 62.1 89.9 NA 83.3 87.3 74.1 1980 87.6 92.4 62.1 89.9 NA 83.3 87.3 74.1 1980 87.5 91.1 70.5 89.8 NA 83.3 79.6 83.1 1981 87.7 91.2 72.5 89.7 89.8 NA 83.3 79.6 83.1 1982 90.3 90.4 94.8 89.8 91.2 84.8 69.2 89.1 1983 89.8 90.4 96.9 89.3 82.6 98.1 71.6 89.1 1984 90.1 88.7 91.2 72.5 89.7 89.8 NA 83.3 79.6 83.1 1985 91.6 90.9 86.9 90.6 98.3 84.4 44.4 54.9 89.1 1987 88.5 89.9 88.7 90.2 96.5 37.1 86.6 82.2 89.1 1988 87.0 90.9 86.9 90.6 98.3 44.4 54.9 89.1 1989 88.5 89.9 88.7 90.2 96.5 37.1 86.6 82.2 89.1 1989 86.9 91.0 89.5 88.4 96.5 56.5 66.4 66.9 82.1 198.9 86.9 90.6 98.3 44.4 54.9 89.1 1989 86.9 91.0 89.5 88.4 96.5 56.6 66.6 62.0 66.0 199.4 86.9 90.6 66.0 66.0 94.8 96.5 66.6 66.0 66.0 66.0 199.4 86.9 90.6 66.0 94.8 96.6 66.0 66.0 66.0 66.0 66.0 66.0 66.0	1988	96.6	98.6	94.2	89.6	95.2	96.7	89.8	94.7
1991	1989	96.0	98.8	92.9	89.7	92.3	97.1	90.5	95.2
1992	1990	96.0	98.8	91.9	89.6	95.0	96.5	85.8	93.9
1993 94.6 97.0 92.2 90.3 91.0 96.7 86.5 92.1 1994 94.6 97.1 89.6 89.8 93.0 95.8 89.3 91.1 1995 94.2 97.0 90.6 87.5 92.5 96.5 91.3 88.1 1996 94.7 97.5 90.6 86.9 92.6 92.5 96.5 91.8 91.1 1997 94.9 97.4 92.4 89.6 93.4 95.2 89.6 89.2 1998 94.8 97.2 90.3 88.1 93.3 95.9 89.2 92.1 1999 94.6 97.4 90.0 88.1 93.3 95.9 89.2 92.1 1999 94.6 97.4 90.0 88.1 93.9 94.6 86.7 89.1 1971 94.9 97.3 90.0 88.1 93.9 94.6 86.7 89.1 1972 89.1 95.9 14.5 95.9 14.5 95.9 14.5 1972 89.1 95.9 74.5 95.9 NA 96.5 90.2 92.1 1972 89.1 95.9 74.5 95.9 NA 96.5 90.2 92.1 1973 90.7 94.2 74.6 94.7 NA 96.1 87.9 88.1 1974 91.9 94.5 71.0 94.9 NA 96.5 89.9 88.1 1975 92.6 95.9 76.9 96.1 NA 98.5 89.9 88.1 1975 92.6 95.9 76.9 96.1 NA 98.7 87.7 90.1 1976 91.8 93.7 69.6 96.3 NA 96.7 84.9 87.3 1977 88.5 92.9 65.7 92.0 NA 88.3 87.3 74.1 1978 87.6 92.4 62.1 89.9 NA 83.3 92.3 87.3 90.1 1979 87.5 91.1 70.5 89.8 NA 92.3 90.1 1979 87.5 91.1 70.5 89.8 NA 92.3 90.1 1980 87.5 91.1 70.5 89.8 NA 92.3 92.1 1980 87.5 91.1 70.5 89.8 NA 92.3 92.1 1980 87.5 91.1 70.5 89.8 NA 83.3 79.6 83.3 1981 87.7 91.2 72.5 89.7 87.8 58.0 86.2 88.3 1982 90.3 90.4 94.8 89.8 91.2 84.8 69.2 89.9 1983 89.8 90.4 96.9 89.3 82.6 98.1 98.1 98.4 69.5 85.4 83.3 1982 90.1 89.4 87.5 91.1 90.9 86.9 90.6 98.3 41.4 54.9 89.9 89.1 1986 91.6 90.9 90.9 86.9 90.6 98.2 29.2 72.0 86.6 199.9 88.5 89.9 88.7 90.2 96.5 37.1 86.6 82.1 1989 86.9 91.0 89.9 88.3 94.3 44.0 64.4 81.1 1989 86.9 91.0 89.9 88.3 94.3 44.0 64.4 81.1 1989 86.9 91.0 89.9 88.3 94.3 44.0 64.4 81.1 1989 86.9 91.0 89.5 88.4 96.5 56.4 65.9 82.1 1990 86.9 91.0 89.5 88.4 96.5 56.4 65.9 82.1 1990 86.9 91.0 89.5 88.4 96.5 56.4 65.9 82.1 1990 86.9 91.0 89.5 88.4 96.5 56.		95.4	97.7	92.1	90.2	93.5	95.9	86.3	92.8
1994	1992	95.0	97.2	91.5	90.6	92.9	96.0	85.4	94.1
1995	1993	94.6	97.0	92.2		91.0	96.7	86.5	92.6
1996	1994		97.1	89.6	89.8	93.0	95.8	89.3	91.3
1997		94.2	97.0	90.6	87.5	92.5	96.5	91.3	88.5
1998		94.7	97.5			92.6	95.2	91.8	91.4
1999	1997	94.9	97.4	92.4	89.6	93.4	95.2	89.6	89.7
2000	1998		97.2	90.3	88.1	93.3	95.9	89.2	92.0
Tother S&E* 1971			97.4	90.0			95.4		91.1
1971	2000	94.8	97.3	90.0	88.1	93.9	94.6	86.7	89.0
1972 89.1 95.9 74.5 95.9 NA 96.5 90.2 92.1 1973 90.7 94.2 74.6 94.7 NA 96.1 87.9 88.1 1974 91.9 94.5 71.0 94.9 NA 98.5 89.9 88.1 1975 92.6 95.9 76.9 96.1 NA 93.7 87.7 90.3 1976 91.8 93.7 69.6 96.3 NA 96.7 84.9 87.3 1977 88.5 92.9 65.7 92.0 NA 88.3 87.3 74.1 1978 87.6 92.4 62.1 89.9 NA 81.9 80.5 72.1 1979 87.2 90.9 64.0 89.8 NA 92.3 94.1 71.1 1980 87.5 91.1 70.5 89.8 NA 83.3 79.6 83.3 1981 87.7 91.2 72.5 89.7 87.8 58.0 86.2 88.3 1982 90.3 90.	"Other S&E"								
1973	1971	91.3	97.2	80.7	98.2	NA	98.4	92.1	95.1
1974	1972	89.1	95.9	74.5	95.9	NA	96.5	90.2	92.6
1975	1973	90.7	94.2	74.6	94.7	NA	96.1	87.9	88.0
1976	1974	91.9	94.5	71.0	94.9	NA	98.5	89.9	88.1
1977	1975	92.6	95.9	76.9	96.1	NA	93.7	87.7	90.3
1978	1976	91.8	93.7	69.6	96.3	NA	96.7	84.9	87.9
1979	1977	88.5	92.9	65.7	92.0	NA	88.3	87.3	74.7
1980 87.5 91.1 70.5 89.8 NA 83.3 79.6 83.4 1981 87.7 91.2 72.5 89.7 87.8 58.0 86.2 88.5 1982 90.3 90.4 94.8 89.8 91.2 84.8 69.2 89.4 1983 89.8 90.4 96.9 89.3 82.6 98.1 71.6 89.5 1984 90.1 89.4 87.5 91.1 98.4 69.5 85.4 83.9 1985 91.6 90.9 86.9 90.6 98.2 29.2 72.0 88.4 1986 91.7 90.9 87.8 90.6 98.3 41.4 54.9 89.9 1987 88.5 89.9 88.7 90.2 96.5 37.1 86.6 82.3 1988 87.0 90.3 89.9 88.3 94.3 42.0 64.4 81.6 1990 86.9 91.0 89.5 88.4 96.5 56.4 65.9 82.0 <	1978	87.6	92.4	62.1	89.9	NA	81.9	80.5	72.2
1981	1979	87.2	90.9	64.0	89.8	NA	92.3	94.1	71.3
1982	1980	87.5	91.1	70.5	89.8	NA	83.3	79.6	83.5
1983	1981	87.7	91.2	72.5	89.7	87.8	58.0	86.2	88.9
1984	1982	90.3	90.4	94.8	89.8	91.2	84.8	69.2	89.4
1985	1983	89.8	90.4	96.9	89.3	82.6	98.1	71.6	89.9
1986	1984	90.1	89.4	87.5	91.1	98.4	69.5	85.4	83.9
1987		91.6	90.9	86.9					88.4
1988	1986	91.7	90.9	87.8	90.6	98.3	41.4	54.9	89.5
1989	1987	88.5	89.9	88.7	90.2	96.5	37.1	86.6	82.3
1990 86.9 91.1 89.3 87.1 99.3 47.1 85.6 76.2 1991 86.9 90.7 86.5 87.3 94.1 58.5 86.1 74.0 1992 84.3 89.6 89.4 85.4 94.6 85.3 91.6 54.9 1993 86.3 91.7 85.9 86.0 94.8 95.6 82.0 60.2 1994 85.3 88.9 92.2 85.8 89.2 67.9 87.5 60.2	1988	87.0	90.3	89.9	88.3	94.3	42.0	64.4	81.6
1991 86.9 90.7 86.5 87.3 94.1 58.5 86.1 74.0 1992 84.3 89.6 89.4 85.4 94.6 85.3 91.6 54.8 1993 86.3 91.7 85.9 86.0 94.8 95.6 82.0 60.2 1994 85.3 88.9 92.2 85.8 89.2 67.9 87.5 60.2	1989	86.9	91.0	89.5	88.4	96.5	56.4	65.9	82.0
1992 84.3 89.6 89.4 85.4 94.6 85.3 91.6 54.9 1993 86.3 91.7 85.9 86.0 94.8 95.6 82.0 60.2 1994 85.3 88.9 92.2 85.8 89.2 67.9 87.5 60.2	1990	86.9	91.1	89.3	87.1	99.3	47.1	85.6	76.2
1993 86.3 91.7 85.9 86.0 94.8 95.6 82.0 60.2 1994 85.3 88.9 92.2 85.8 89.2 67.9 87.5 60.2	1991	86.9	90.7	86.5	87.3	94.1	58.5	86.1	74.0
1994 85.3 88.9 92.2 85.8 89.2 67.9 87.5 60.3	1992	84.3	89.6	89.4	85.4	94.6	85.3	91.6	54.9
	1993	86.3	91.7	85.9	86.0	94.8	95.6	82.0	60.2
	1994	85.3	88.9	92.2	85.8	89.2	67.9	87.5	60.7
<u>1995</u> 85.7 88.7 89.1 85.1 92.5 65.2 79.4 67.	1995	85.7	88.7	89.1	85.1	92.5	65.2	79.4	67.7

Appendix table 4. Percentage share of Federal S&E support to 1994 Carnegie research, doctorate-granting, and medical institutions, by funding agency and type of support: FY 1971–2000

Page 3 of 3

Fiscal year	All agencies	HHS	NSF	USDA	DOD	DOE	EPA	NASA
1996	86.7	89.3	90.8	85.4	93.5	62.4	89.9	62.5
1997	82.0	89.7	68.0	84.4	91.5	93.7	93.9	60.8
1998	81.6	91.4	67.9	83.8	95.9	96.2	82.3	70.2
1999	81.2	90.4	75.7	86.1	93.8	95.9	86.8	70.1
2000	81.1	90.5	74.5	84.5	96.2	NA	90.2	71.6

KEY: HHS = Department of Health and Human Services; NSF = National Science Foundation; USDA = Department of Agriculture; DOD = Department of Defense; DOE = Department of Energy; EPA = Environmental Protection Agency; NASA = National Aeronautics and Space Administration; NA = not applicable because no funds for "other S&E support."

NOTES: S&E support includes both R&D support and "other S&E support." R&D support includes support for both the conduct of R&D and R&D plant. "Other S&E support" includes support for facilities and equipment for S&E instruction; fellowships, traineeships, and training grants; general support for S&E; and other S&E activities.

Appendix table 5. Percentage share of Federal S&E support, by type of support and selected 1994 Carnegie code: FY 1971–2000

Page 1 of 3

Fiscal	All	Research, doctorate-granting, and medical					Page 1 of 3 All other institutions							
year	institutions	Total	R1	R2	D1	D2	MED	2YR	Total	C1	C2	LA1	LA2	Other
Total S&E	IIIStitutions	Total	IXI	112	Di	DZ	IVILD	2110	Total	01	02	LAI	LAZ	Other
1971	100.0	94.8	77.4	7.6	2.6	2.7	4.6	0.5	4.7	2.3	0.5	0.6	0.3	1.0
1972	100.0	94.0	77.0	7.0	2.6	2.6	4.7	0.3	5.7	2.9	0.6	0.6	0.5	1.2
1973	100.0	95.1	78.3	7.1	2.2	2.5	4.9	0.2	4.7	2.4	0.7	0.4	0.4	0.9
1974	100.0	95.1	78.2	6.6	2.0	2.4	6.0	0.2	4.7	2.3	0.6	0.4	0.4	1.0
1975	100.0	95.7	78.1	7.3	1.8	2.6	5.9	0.1	4.2	2.2	0.6	0.2	0.3	0.9
1976	100.0	95.6	78.0	7.0	1.8	2.8	6.0	0.2	4.3	2.2	0.6	0.3	0.2	0.9
1977	100.0	94.8	77.7	7.0	1.6	2.6	5.9	0.3	4.9	2.7	0.8	0.3	0.3	0.9
1978	100.0	95.2	78.2	6.5	1.8	2.9	5.7	0.2	4.6	2.7	0.3	0.3	0.3	1.0
1979	100.0	95.2	78.6	6.5	1.6	2.8	5.7	0.3	4.5	2.8	0.2	0.3	0.3	0.8
1980	100.0	95.4	79.1	6.4	1.5	2.9	5.5	0.2	4.4	2.7	0.2	0.3	0.4	0.8
1981	100.0	95.4	79.8	6.3	1.4	2.6	5.3	0.2	4.4	2.8	0.2	0.2	0.3	0.8
1982	100.0	95.9	80.1	6.5	1.4	2.6	5.2	0.1	4.0	2.5	0.2	0.2	0.3	0.9
1983	100.0	95.7	80.7	6.5	1.3	2.5	4.8	0.1	4.2	2.6	0.2	0.2	0.3	0.8
1984	100.0	95.3	80.1	6.4	1.3	2.6	4.9	0.1	4.6	2.9	0.2	0.2	0.3	1.0
1985	100.0	95.9	80.8	6.2	1.5	2.4	5.0	0.1	4.0	2.5	0.2	0.2	0.2	0.7
1986	100.0	95.8	80.4	6.1	1.5	2.6	5.1	0.1	4.2	2.6	0.2	0.2	0.2	0.8
1987	100.0	95.2	78.8	6.6	1.8	2.7	5.4	0.2	4.5	2.8	0.3	0.2	0.4	0.8
1988	100.0	95.3	78.9	6.3	1.6	2.8	5.7	0.2	4.5	2.9	0.2	0.3	0.3	0.8
1989	100.0	94.8	78.7	5.9	1.6	2.9	5.7	0.4	4.8	3.0	0.2	0.2	0.3	1.1
1990	100.0	94.9	78.3	6.0	1.6	3.3	5.7	0.2	4.9	3.1	0.3	0.3	0.3	0.9
1991	100.0	94.2	77.0	6.2	1.8	3.5	5.7	0.2	5.6	3.3	0.2	0.4	0.3	1.4
1992 1993	100.0	93.6	76.1	5.8	1.8	3.6	6.2	0.2	6.2	3.4	0.3	0.3	0.3	1.9
1993	100.0 100.0	93.6 93.4	75.9 75.4	6.0 6.0	1.7 1.7	3.8 3.5	6.2 6.8	0.4 0.4	6.1 6.2	3.4 3.6	0.4 0.4	0.3 0.3	0.4 0.3	1.6 1.6
1994	100.0	93.4	75.4 75.7	5.8	1.7	3.5	6.4	0.4	6.5	3.7	0.4	0.3	0.3	1.6
1996	100.0	93.7	75.9	5.8	1.7	3.4	7.1	0.4	6.0	3.7	0.4	0.4	0.4	1.7
1997	100.0	93.4	75.0	5.8	1.6	3.7	7.1	0.3	6.3	3.6	0.3	0.3	0.3	1.8
1998	100.0	93.1	74.4	5.8	1.7	3.6	7.6	0.3	6.6	3.4	0.3	0.3	0.3	2.3
1999	100.0	92.9	74.2	5.8	1.6	3.7	7.6	0.4	6.7	3.6	0.2	0.3	0.3	2.4
2000	100.0	93.1	73.7	5.9	1.6	3.8	8.3	0.4	6.5	3.2	0.2	0.3	0.3	2.5
R&D														
1971	100.0	96.6	81.0	6.4	2.1	2.2	4.9	0.1	3.4	1.2	0.5	0.3	0.1	1.1
1972	100.0	95.8	80.5	6.1	2.2	2.2	4.9	0.1	4.1	1.7	0.6	0.3	0.2	1.4
1973	100.0	96.3	80.9	6.2	1.9	2.0	5.3	0.1	3.7	1.5	0.7	0.3	0.2	1.0
1974	100.0	96.1	80.0	5.9	1.8	2.2	6.2	0.1	3.9	1.7	0.6	0.3	0.2	1.1
1975	100.0	96.4	79.3	6.5	1.7	2.4	6.4	0.0	3.6	1.7	0.6	0.2	0.2	0.9
1976	100.0	96.4	79.4	6.1	1.8	2.5	6.7	0.0	3.6	1.7	0.6	0.2	0.1	0.9
1977	100.0	95.9	79.2	6.3	1.6	2.5	6.4	0.1	4.0	1.9	0.8	0.2	0.1	0.9
1978	100.0	96.3	79.6	6.0	1.7	2.8	6.2	0.1	3.5	2.0	0.2	0.2	0.2	1.0
1979	100.0	96.4	79.9	6.1	1.5	2.7	6.1	0.2	3.4	2.0	0.1	0.2	0.2	0.9
1980	100.0	96.5	80.3	6.1	1.5	2.7	5.8	0.0	3.4	2.0	0.2	0.2	0.2	0.9
1981	100.0	96.5	81.0	5.9	1.4	2.5	5.7	0.1	3.4	2.0	0.1	0.2	0.2	0.9
1982	100.0	96.6	80.9	6.1	1.4	2.6	5.6	0.1	3.3	1.9	0.1	0.2	0.2	0.9
1983	100.0	96.4	81.6	6.1	1.3	2.4	5.1	0.1	3.5	2.0	0.2	0.2	0.1	0.9

Appendix table 5. Percentage share of Federal S&E support, by type of support and selected 1994 Carnegie code: FY 1971–2000

Page 2 of 3

	AII	Research, doctorate-granting, and medical					Page 2 of 3 All other institutions							
Fiscal	All						MED	0)/D	+	04			140	011
year 1984	institutions 100.0	Total	R1 80.9	R2	D1 1.3	D2	MED 5.3	2YR 0.0	Total 3.9	C1 2.2	C2 0.1	LA1 0.2	LA2 0.1	Other 1.1
1985	100.0	96.1 96.5	81.3	6.0 5.9	1.6	2.5 2.4	5.3	0.0	3.4	2.2	0.1	0.2	0.1	0.8
1986	100.0	96.3	80.9	5.8	1.6	2.4	5.5	0.0	3.6	2.1	0.1	0.2	0.1	0.9
1987	100.0	96.2	79.6	6.4	1.8	2.6	5.8	0.0	3.7	2.2	0.2	0.2	0.1	0.8
1988	100.0	96.6	80.0	6.1	1.6	2.8	6.1	0.1	3.4	2.1	0.2	0.2	0.2	0.8
1989	100.0	96.0	79.7	5.7	1.5	2.9	6.2	0.1	3.9	2.2	0.1	0.2	0.1	1.2
1990	100.0	96.0	79.3	5.7	1.6	3.4	6.1	0.1	3.8	2.3	0.1	0.3	0.1	1.0
1991	100.0	95.4	78.1	5.7	1.8	3.4	6.3	0.1	4.5	2.5	0.1	0.3	0.1	1.5
1992	100.0	95.0	77.4	5.6	1.8	3.5	6.8	0.1	4.9	2.5	0.1	0.3	0.2	1.8
1993	100.0	94.6	76.8	5.8	1.6	3.7	6.7	0.3	5.2	2.9	0.2	0.2	0.2	1.6
1994	100.0	94.6	76.5	5.7	1.7	3.4	7.3	0.3	5.1	2.8	0.2	0.3	0.2	1.6
1995	100.0	94.2	76.6	5.5	1.7	3.4	6.9	0.4	5.4	2.9	0.2	0.4	0.2	1.8
1996	100.0	94.7	76.6	5.5	1.5	3.4	7.7	0.2	5.1	2.6	0.1	0.3	0.2	1.9
1997	100.0	94.9	76.4	5.6	1.5	3.7	7.7	0.1	5.0	2.5	0.1	0.3	0.2	1.9
1998	100.0	94.8	76.1	5.6	1.5	3.5	8.1	0.1	5.1	2.4	0.1	0.2	0.1	2.3
1999	100.0	94.6	76.0	5.5	1.4	3.6	8.1	0.1	5.3	2.6	0.1	0.2	0.2	2.2
2000	100.0	94.8	75.1	5.7	1.5	3.7	8.8	0.2	5.1	2.3	0.1	0.2	0.2	2.2
"Other S&E"														
1971	100.0	91.3	69.9	10.0	3.6	3.7	4.0	1.4	7.3	4.5	0.4	1.1	0.7	0.7
1972	100.0	89.1	67.9	9.5	3.7	3.8	4.2	1.0	9.9	6.2	0.6	1.2	1.4	0.5
1973	100.0	90.7	69.3	10.2	3.1	4.4	3.8	0.7	8.5	5.3	0.7	0.9	1.4	0.3
1974	100.0	91.9	71.7	8.9	2.5	3.4	5.3	0.5	7.6	4.4	0.7	0.7	1.3	0.4
1975	100.0	92.6	72.6	10.7	2.2	3.5	3.6	0.6	6.8	4.1	0.7	0.4	0.9	0.6
1976	100.0	91.8	71.2	11.7	2.0	4.1	2.8	0.7	7.4	4.5	0.7	0.6	0.8	0.8
1977	100.0	88.5	69.4	10.7	1.9	3.4	3.1	1.1	10.4	6.9	0.8	0.6	1.3	0.8
1978	100.0	87.6	69.5	9.4	2.3	3.5	2.9	0.8	11.6	7.7	0.9	0.8	1.4	0.8
1979	100.0	87.2	69.6	9.2	1.8	3.6	3.0	1.1	11.8	8.3	0.9	0.7	1.4	0.5
1980	100.0	87.5	70.7	8.6	1.4	3.9	3.0	1.2	11.3	7.8	0.7	0.5	1.8	0.4
1981	100.0	87.7	70.9	9.3	1.3	3.3	2.9	0.6	11.7	8.7	8.0	0.4	1.5	0.3
1982	100.0	90.3	73.4	9.4	1.5	3.2	2.7	0.4	9.4	7.0	0.7	0.1	1.1	0.5
1983	100.0	89.8	73.1	9.7	0.9	3.3	2.8	0.4	9.8	7.2	0.9	0.1	1.3	0.4
1984	100.0	90.1	74.7	9.5	0.7	2.9	2.2	0.4	9.5	7.3	0.7	0.1	1.1	0.3
1985	100.0	91.6	77.2	8.3	0.7	2.8	2.6	0.3	8.1	5.7	0.7	0.3	1.1	0.4
1986	100.0	91.7	76.8	8.4	1.0	2.7	2.7	0.3	8.0	5.7	0.7	0.2	1.2	0.3
1987	100.0	88.5	72.9	7.7	2.0	3.3	2.5	1.0	10.5	7.3	0.8	0.4	1.6	0.4
1988	100.0	87.0	71.5	7.8	2.0	3.2	2.5	1.0	11.9	8.5	0.8	0.5	1.6	0.4
1989	100.0	86.9	71.6	7.8	1.7	3.2	2.7	1.9	11.2	7.9	0.9	0.5	1.5	0.5
1990	100.0	86.9	71.1	8.5	1.4	3.1	2.8	0.9	12.2	8.6	1.2	0.6	1.4	0.4
1991	100.0	86.9	70.3	9.0	1.8	3.6	2.1	1.0	12.1	8.1	0.9	0.9	1.5	0.7
1992	100.0	84.3	68.0	7.5	2.2	4.5	2.1	1.2	14.5	8.9	1.1	0.7	1.4	2.3
1993	100.0	86.3	69.4	7.3	2.4	4.6	2.6	8.0	12.8	7.3	1.7	0.7	1.4	1.7
1994	100.0	85.3	67.8	8.5	1.9	4.0	3.1	0.9	13.8	9.3	1.4	0.6	1.1	1.4
1995	100.0	85.7	69.6	7.3	1.7	4.0	3.1	0.9	13.4	9.1	1.5	0.7	1.3	0.8

Appendix table 5. Percentage share of Federal S&E support, by type of support and selected 1994 Carnegie code: FY 1971–2000

Page 3 of 3

Fiscal	All		Research, doctorate-granting, and medical						All other institutions					
year	institutions	Total	R1	R2	D1	D2	MED	2YR	Total	C1	C2	LA1	LA2	Other
1996	100.0	86.7	70.6	7.4	1.6	3.7	3.3	0.9	12.4	8.5	1.7	0.3	1.2	0.7
1997	100.0	82.0	65.0	7.2	2.2	4.0	3.6	1.9	16.0	11.2	1.4	0.7	1.6	1.1
1998	100.0	81.6	63.0	7.2	2.8	4.6	4.0	1.8	16.6	10.2	1.5	0.7	1.3	2.8
1999	100.0	81.2	62.0	7.4	2.8	4.7	4.2	2.1	16.7	10.5	1.0	0.6	1.2	3.4
2000	100.0	81.1	62.9	7.2	2.3	4.5	4.1	1.6	17.3	9.7	1.2	0.5	1.4	4.4

KEY: R1 = research 1 universities; R2 = research 2 universities 2; D1 = doctorate-granting 1 institutions; D2 = doctorate-granting 2 institutions; MED = free standing medical schools; 2YR = 2-year institutions; C1 = master's or comprehensive universities 2; LA1 = baccalaureate or liberal arts colleges 1; LA2 = baccalaureate colleges 2; other = professional schools and other specialized institutions and any unclassified institutions

NOTES: S&E support includes both R&D support and "other S&E support." R&D support includes support for both R&D and R&D plant. "Other S&E support" includes support for facilities and equipment for S&E instruction; fellowships, traineeships, and training grants; general support for S&E; and other S&E activities.

Appendix table 6. Percentage share of Federal S&E support to academic institutions going to R&D activities, by funding agency: FY 1971–2000

Fiscal Year	All agencies	HHS	NSF	USDA	DOD	DOE	EPA	NASA
1971	67	66	58	35	100	95	63	96
1972	73	71	75	37	100	95	76	95
1973	78	76	85	37	100	94	67	95
1974	77	75	86	37	100	99	78	93
1975	82	84	86	38	100	99	87	93
1976	83	86	89	38	100	100	89	90
1977	85	87	88	41	100	98	97	94
1978	86	88	89	45	100	99	94	96
1979	87	89	90	46	100	97	91	95
1980	88	89	89	48	100	97	94	94
1981	88	89	89	49	97	97	95	95
1982	89	91	95	48	95	99	95	95
1983	89	91	96	50	97	98	90	94
1984	87	91	94	47	87	99	91	94
1985	88	90	95	47	86	100	95	95
1986	88	91	95	48	87	100	96	94
1987	87	92	93	54	86	100	90	95
1988	87	92	91	52	87	100	97	94
1989	87	92	91	51	86	100	90	95
1990	87	92	91	52	89	100	93	92
1991	86	92	88	54	87	99	90	90
1992	87	93	91	56	87	99	90	86
1993	88	93	90	55	87	98	93	84
1994	87	93	88	54	85	99	93	89
1995	87	93	88	54	87	97	90	87
1996	87	93	86	51	90	99	87	89
1997	88	93	87	56	89	99	91	89
1998	87	93	86	49	90	99	91	86
1999	87	92	84	53	94	99	91	88
2000	88	93	88	52	91	100	90	86

KEY: HHS = Department of Health and Human Services; NSF = National Science Foundation; USDA = Department of Agriculture; DOD = Department of Defense; DOE = Department of Energy; EPA = Environmental Protection Agency; NASA = National Aeronautics and Space Administration.

NOTES: R&D support includes support for both the conduct of R&D and R&D plant. S&E support includes both R&D support and "other S&E support" (facilities and equipment for S&E instruction; fellowships, traineeships, and training grants; general support for S&E; and other S&E activities).

Appendix table 7. Federal S&E support to academic institutions, by funding agency and type of support: FY 1971–2000

(Millions of constant 1996 dollars)

Paq		

1972									Page 1 of 3
1971	Fiscal year	All agencies	HHS	NSF	USDA	DOD	DOE	EPA	NASA
1972	Total S&E								
1973	1971	7,831	3,480	1,296	717	832	354	91	448
1974	1972	8,299	3,916	1,464	762	779	304	74	380
1975	1973	7,534	3,574	1,283	785	712	294	85	340
1976 7,149 3,639 1,199 794 512 348 80 28 1977. 7,529 3,739 1,271 771 600 468 104 22 1978. 8,332 3,920 1,277 823 951 562 121 27 1979. 8,700 4,206 1,306 822 1,028 533 130 28 1980. 8,557 4,074 1,297 793 993 553 146 33 146 33 130 28 1982 48 1,132 800 1,182 505 110 25 1982 20 1,881 3,848 1,132 800 1,182 505 110 25 1982 20 1,881 1,882 505 110 22 1,882 1,983 4,886 4,123 1,315 854 1,342 490 73 30 30 1,984 1,944 615 89 34 <	1974	7,811	4,250	1,283	744	526	284	88	282
1977. 7,529 3,739 1,271 771 600 468 104 27 1978. 8,332 3,920 1,277 823 951 562 121 22 1979. 8,700 4,206 1,306 822 1,028 533 130 28 1980. 8,557 4,074 1,297 793 993 553 146 30 1981. 8,243 3,848 1,132 800 1,182 505 110 22 1982. 7,881 3,550 1,108 806 1,304 439 128 26 1983. 8,280 3,793 1,164 825 1,370 466 73 22 1984. 8,867 4,123 1,315 854 1,342 490 73 30 1985. 9,876 4,681 1,468 888 1,444 615 89 33 1987. 11,080 5,423 1,381 <td>1975</td> <td>7,256</td> <td>3,730</td> <td>1,268</td> <td>752</td> <td>493</td> <td>321</td> <td>100</td> <td>279</td>	1975	7,256	3,730	1,268	752	493	321	100	279
1978. 8,332 3,920 1,277 823 951 562 121 27 1979. 8,700 4,206 1,306 822 1,028 533 130 28 1980. 8,557 4,074 1,297 793 993 553 146 30 1981. 8,243 3,848 1,132 800 1,182 505 110 225 1982. 7,881 3,550 1,108 806 1,304 439 128 226 1983. 8,280 3,793 1,164 825 1,370 466 73 25 1984. 8,867 4,123 1,315 854 1,342 490 73 30 1985. 9,876 4,681 1,468 888 1,444 615 89 34 1986. 9,875 4,697 1,404 825 1,603 559 94 35 1988. 11,403 5,616 1,381<	1976	7,149	3,639	1,199	794	512	348	80	287
1979. 8,700 4,206 1,306 822 1,028 533 130 28 1980. 8,557 4,074 1,297 793 993 553 146 30 1981. 8,243 3,848 1,132 800 1,182 505 110 25 1982. 7,881 3,550 1,108 806 1,304 439 128 26 1983. 8,280 3,793 1,164 825 1,370 466 73 25 1984. 8,867 4,123 1,315 854 1,342 490 73 33 1985. 9,876 4,681 1,468 888 1,444 615 89 34 1986. 9,875 4,697 1,404 825 1,603 559 94 35 1987. 11,080 5,423 1,381 929 1,725 672 83 45 1988. 12,155 5,924 1,613<	1977	7,529	3,739	1,271	771	600	468	104	272
1980 8,557 4,074 1,297 793 993 553 146 30 1981 8,243 3,848 1,132 800 1,182 505 110 25 1982 7,881 3,550 1,108 806 1,304 439 128 26 1983 8,280 3,793 1,164 825 1,370 466 73 25 1984 8,867 4,123 1,315 855 1,340 469 73 30 1986 9,876 4,697 1,404 825 1,603 559 94 33 1986 9,875 4,697 1,404 825 1,603 559 94 33 1987 11,080 5,423 1,384 872 1,653 615 96 40 1988 11,443 5,616 1,381 929 1,725 672 83 44 1989 12,168 6,039 1,680	1978	8,332	3,920	1,277	823	951	562	121	274
1981 8,243 3,848 1,132 800 1,182 505 110 25 1982 7,881 3,550 1,108 806 1,304 439 128 26 1983 8,280 3,793 1,164 825 1,370 466 73 25 1984 8,867 4,123 1,315 854 1,342 490 73 33 1985 9,876 4,681 1,468 888 1,444 615 89 34 1986 9,875 4,697 1,404 825 1,603 615 96 44 1988 11,080 5,423 1,384 872 1,653 615 96 44 1988 11,443 5,616 1,381 929 1,725 672 83 48 1989 12,155 5,924 1,613 870 1,792 683 103 55 1990 12,168 6,039 1,680 886 1,560 647 109 55 1991 13,319	1979	8,700	4,206	1,306	822	1,028	533	130	280
1982 7,881 3,550 1,108 806 1,304 439 128 26 1983 8,280 3,793 1,164 825 1,370 466 73 28 1984 8,667 4,123 1,315 854 1,342 490 73 30 1985 9,876 4,681 1,468 888 1,444 615 89 32 1986 9,875 4,697 1,404 825 1,603 559 94 35 1987 11,080 5,423 1,384 872 1,653 615 96 40 1988 11,443 5,616 1,381 929 1,725 672 83 44 1989 12,155 5,924 1,613 870 1,792 683 103 55 1990 12,168 6,039 1,680 886 1,560 647 109 58 1991 13,394 6,845 1,996	1980	8,557	4,074	1,297	793	993	553	146	306
1983 8,280 3,793 1,164 825 1,370 466 73 25 1984 8,867 4,123 1,315 854 1,342 490 73 30 1985 9,876 4,681 1,468 888 1,444 615 89 34 1986 9,875 4,697 1,404 825 1,603 559 94 36 1987 11,080 5,423 1,384 872 1,653 615 96 44 1988 11,443 5,616 1,381 929 1,725 672 83 45 1989 12,155 5,924 1,613 870 1,792 683 103 55 1991 13,319 6,509 1,838 970 1,723 741 130 66 1992 13,994 6,845 1,996 1,034 1,647 770 164 75 1993 13,664 6,487 1,991 <td>1981</td> <td>8,243</td> <td>3,848</td> <td>1,132</td> <td>800</td> <td>1,182</td> <td>505</td> <td>110</td> <td>299</td>	1981	8,243	3,848	1,132	800	1,182	505	110	299
1984 8,867 4,123 1,315 854 1,342 490 73 30 1985 9,876 4,681 1,468 888 1,444 615 89 34 1986 9,875 4,697 1,404 825 1,603 559 94 38 1987 11,080 5,423 1,384 872 1,653 615 96 44 1988 11,443 5,616 1,381 929 1,725 672 83 45 1989 12,155 5,924 1,613 870 1,792 683 103 55 1990 12,168 6,039 1,680 886 1,560 647 109 55 1991 13,319 6,509 1,838 970 1,723 741 130 66 1992 13,994 6,845 1,996 1,034 1,647 770 164 75 1993 13,664 6,487 1,991 </td <td>1982</td> <td>7,881</td> <td>3,550</td> <td>1,108</td> <td>806</td> <td>1,304</td> <td>439</td> <td>128</td> <td>269</td>	1982	7,881	3,550	1,108	806	1,304	439	128	269
1985 9,876 4,681 1,468 888 1,444 615 89 334 1986 9,875 4,697 1,404 825 1,603 559 94 38 1987 11,080 5,423 1,384 872 1,653 615 96 40 1988 11,443 5,616 1,381 929 1,725 672 83 45 1989 12,155 5,924 1,613 870 1,792 683 103 55 1990 12,168 6,039 1,680 886 1,560 647 109 55 1991 13,319 6,509 1,838 970 1,723 741 130 66 1992 13,994 6,845 1,996 1,034 1,647 770 164 75 1993 13,664 6,487 1,991 1,010 1,954 785 163 77 1994 14,450	1983	8,280	3,793	1,164	825	1,370	466	73	297
1986. 9,875 4,697 1,404 825 1,603 559 94 33 1987. 11,080 5,423 1,384 872 1,653 615 96 46 1988. 11,443 5,616 1,381 929 1,725 672 83 45 1989. 12,155 5,924 1,613 870 1,792 683 103 55 1990. 12,168 6,039 1,680 886 1,560 647 109 56 1991. 13,319 6,509 1,838 970 1,723 741 130 66 1992. 13,994 6,845 1,996 1,034 1,647 770 164 75 1993. 13,664 6,487 1,991 1,010 1,954 785 163 77 1994. 14,451 7,263 2,129 985 1,970 663 151 77 1995. 14,750 7,259	1984	8,867	4,123	1,315	854	1,342	490	73	304
1987 11,080 5,423 1,384 872 1,653 615 96 44 1988 11,443 5,616 1,381 929 1,725 672 83 45 1989 12,155 5,924 1,613 870 1,792 683 103 55 1990 12,168 6,039 1,680 886 1,560 647 109 56 1991 13,319 6,509 1,838 970 1,723 741 130 66 1992 13,994 6,845 1,996 1,034 1,647 770 164 75 1993 13,664 6,487 1,991 1,010 1,954 785 163 77 1994 14,451 7,263 2,129 985 1,970 663 151 77 1995 14,750 7,259 2,256 972 1,889 650 168 84 1996 14,450	1985	9,876	4,681	1,468	888	1,444	615	89	342
1988. 11,443 5,616 1,381 929 1,725 672 83 44 1989. 12,155 5,924 1,613 870 1,792 683 103 55 1990. 12,168 6,039 1,680 886 1,560 647 109 55 1991. 13,319 6,509 1,838 970 1,723 741 130 66 1992. 13,994 6,845 1,996 1,034 1,647 770 164 75 1993. 13,664 6,487 1,991 1,010 1,954 785 163 77 1994. 14,451 7,263 2,129 985 1,970 663 151 77 1995. 14,750 7,259 2,256 972 1,889 650 168 84 1996. 14,450 7,429 2,206 876 1,786 656 103 77 1997. 14,807 7,785 2,206 962 1,680 635 160 80 1998.	1986	9,875	4,697	1,404	825	1,603	559	94	359
1989. 12,155 5,924 1,613 870 1,792 683 103 55 1990. 12,168 6,039 1,680 886 1,560 647 109 55 1991. 13,319 6,509 1,838 970 1,723 741 130 66 1992. 13,994 6,845 1,996 1,034 1,647 770 164 75 1993. 13,664 6,487 1,991 1,010 1,954 785 163 77 1994. 14,451 7,263 2,129 985 1,970 663 151 77 1995. 14,750 7,259 2,256 972 1,889 650 168 84 1996. 14,450 7,429 2,206 876 1,786 656 103 77 1997. 14,807 7,785 2,206 962 1,680 635 160 80 1998. 15,566 8,365 2,371 839 1,655 612 192 85 1999.	1987	11,080	5,423	1,384	872	1,653	615	96	401
1990 12,168 6,039 1,680 886 1,560 647 109 55 1991 13,319 6,509 1,838 970 1,723 741 130 66 1992 13,994 6,845 1,996 1,034 1,647 770 164 75 1993 13,664 6,487 1,991 1,010 1,954 785 163 77 1994 14,451 7,263 2,129 985 1,970 663 151 77 1995 14,750 7,259 2,256 972 1,889 650 168 84 1996 14,450 7,429 2,206 876 1,786 656 103 77 1997 14,807 7,785 2,206 962 1,680 635 160 80 1998 15,566 8,365 2,371 839 1,655 612 192 85 1999 17,241 9,396 2,577 903 1,720 622 171 99	1988	11,443	5,616	1,381	929	1,725	672	83	456
1991 13,319 6,509 1,838 970 1,723 741 130 66 1992 13,994 6,845 1,996 1,034 1,647 770 164 75 1993 13,664 6,487 1,991 1,010 1,954 785 163 77 1994 14,451 7,263 2,129 985 1,970 663 151 77 1995 14,750 7,259 2,256 972 1,889 650 168 84 1996 14,450 7,429 2,206 876 1,786 656 103 77 1997 14,807 7,785 2,206 962 1,680 635 160 86 1998 15,566 8,365 2,371 839 1,655 612 192 85 1999 17,241 9,396 2,577 903 1,720 622 171 96 2000 18,596 10,589 2,641 1,011 1,878 651 139 96 1972 <t< td=""><td>1989</td><td>12,155</td><td>5,924</td><td>1,613</td><td>870</td><td>1,792</td><td>683</td><td>103</td><td>558</td></t<>	1989	12,155	5,924	1,613	870	1,792	683	103	558
1992 13,994 6,845 1,996 1,034 1,647 770 164 75 1993 13,664 6,487 1,991 1,010 1,954 785 163 77 1994 14,451 7,263 2,129 985 1,970 663 151 77 1995 14,750 7,259 2,256 972 1,889 650 168 84 1996 14,450 7,429 2,206 876 1,786 656 103 77 1997 14,807 7,785 2,206 962 1,680 635 160 80 1998 15,566 8,365 2,371 839 1,655 612 192 88 1999 17,241 9,396 2,577 903 1,720 622 171 98 2000 18,596 10,589 2,641 1,011 1,878 651 139 98 R&D 1971 5,285 2,288 757 250 832 336 57	1990	12,168	6,039	1,680	886	1,560	647	109	596
1993 13,664 6,487 1,991 1,010 1,954 785 163 77 1994 14,451 7,263 2,129 985 1,970 663 151 77 1995 14,750 7,259 2,256 972 1,889 650 168 84 1996 14,450 7,429 2,206 876 1,786 656 103 77 1997 14,807 7,785 2,206 962 1,680 635 160 80 1998 15,566 8,365 2,371 839 1,655 612 192 86 1999 17,241 9,396 2,577 903 1,720 622 171 96 2000 18,596 10,589 2,641 1,011 1,878 651 139 95 R&D 1971 5,285 2,288 757 250 832 336 57 43 1972 6,034 2,781 1,101 283 779 290 57 <td< td=""><td>1991</td><td>13,319</td><td>6,509</td><td>1,838</td><td>970</td><td>1,723</td><td>741</td><td>130</td><td>667</td></td<>	1991	13,319	6,509	1,838	970	1,723	741	130	667
1994	1992	13,994	6,845	1,996	1,034	1,647	770	164	750
1995 14,750 7,259 2,256 972 1,889 650 168 84 1996 14,450 7,429 2,206 876 1,786 656 103 77 1997 14,807 7,785 2,206 962 1,680 635 160 80 1998 15,566 8,365 2,371 839 1,655 612 192 85 1999 17,241 9,396 2,577 903 1,720 622 171 99 2000 18,596 10,589 2,641 1,011 1,878 651 139 95 R&D 1971 5,285 2,288 757 250 832 336 57 43 1972 6,034 2,781 1,101 283 779 290 57 36 1973 5,852 2,732 1,088 287 712 278 57 32 1974 6,034 3,194 1,102 276 526 282 69 26	1993	13,664	6,487	1,991		1,954	785	163	779
1996 14,450 7,429 2,206 876 1,786 656 103 77 1997 14,807 7,785 2,206 962 1,680 635 160 80 1998 15,566 8,365 2,371 839 1,655 612 192 85 1999 17,241 9,396 2,577 903 1,720 622 171 99 2000 18,596 10,589 2,641 1,011 1,878 651 139 96 R&D 1971 5,285 2,288 757 250 832 336 57 43 1972 6,034 2,781 1,101 283 779 290 57 36 1973 5,852 2,732 1,088 287 712 278 57 32 1974 6,034 3,194 1,102 276 526 282 69 26 1975 5,924 3,128 1,092 286 493 319 87 25 <	1994	14,451	7,263	2,129	985	1,970	663	151	778
1997		14,750			972	1,889	650	168	849
1998	1996	14,450	7,429	2,206	876	1,786	656	103	771
1999	1997	14,807	7,785			1,680	635	160	809
2000	1998					1,655		192	894
R&D 1971	1999	17,241	9,396	2,577	903	1,720	622	171	992
1971	2000	18,596	10,589	2,641	1,011	1,878	651	139	950
1972	R&D								
1972	1971	5,285	2,288	757	250	832	336	57	430
1974 6,034 3,194 1,102 276 526 282 69 26 1975 5,924 3,128 1,092 286 493 319 87 25	1972	6,034	2,781	1,101	283	779	290	57	361
1975 5,924 3,128 1,092 286 493 319 87 25	1973	5,852	2,732	1,088	287	712	278	57	323
	1974	6,034	3,194	1,102	276	526	282	69	263
1976	1975	5,924	3,128	1,092	286	493	319	87	259
	1976	5,930	3,122	1,069	300	512	347	71	258
1977	1977	6,379	3,247	1,120	320	600	460	101	255
	1978					951	556		
	1979					1,028	516	119	267
	1980				378			137	288
	1981				393	1,142			283
	1982							121	256
	1983				413	1,331	457	66	

Appendix table 7. Federal S&E support to academic institutions, by funding agency and type of support: FY 1971–2000

(Millions of constant 1996 dollars)

Page 2 of 3

Fiscal year	All agencies	HHS	NSF	USDA	DOD	DOE	EPA	NASA
1984	7,729	3,769	1,236	397	1,164	487	67	287
1985	8,654	4,232	1,396	422	1,237	613	84	323
1986	8,721	4,273	1,330	398	1,402	558	90	338
1987	9,662	4,963	1,288	467	1,421	614	87	381
1988	9,922	5,168	1,258	487	1,495	671	80	427
1989	10,570	5,464	1,464	443	1,542	682	93	528
1990	10,643	5,562	1,526	458	1,391	644	101	551
1991	11,471	6,019	1,620	523	1,498	733	117	602
1992	12,139	6,399	1,820	575	1,434	760	148	645
1993	12,014	6,058	1,788	557	1,691	770	152	654
1994	12,625	6,771	1,870	535	1,670	655	140	688
1995	12,773	6,736	1,989	523	1,649	631	152	740
1996	12,594	6,897	1,898	446	1,603	649	90	684
1997	13,041	7,239	1,925	535	1,502	629	145	716
1998	13,573	7,751	2,027	415	1,497	603	174	765
1999	15,030	8,690	2,175	479	1,611	613	155	868
2000	16,397	9,853	2,315	527	1,714	651	124	816
"Other S&E"								
1971	2,546	1,192	538	467	0	17	34	18
1972	2,264	1,135	364	479	0	14	18	19
1973	1,682	842	195	498	0	16	28	18
1974	1,777	1,056	181	468	0	2	19	20
1975	1,332	602	177	466	0	2	13	20
1976	1,219	517	130	494	0	1	9	29
1977	1,150	493	152	452	0	8	3	16
1978	1,135	481	136	455	0	6	7	12
1979	1,103	449	134	445	0	16	11	13
1980	1,058	449	143	415	0	17	8	17
1981	1,016	405	120	407	40	15	5	15
1982	904	330	51	416	66	6	7	14
1983	902	350	47	412	39	9	7	19
1984	1,138	354	79	457	178	3	6	18
1985	1,222	449	72	466	207	1	4	18
1986	1,154	425	74	427	201	1	4	21
1987	1,418	460	96	405	232	1	9	20
1988	1,520	448	123	441	229	1	3	30
1989	1,586	461	148	428	251	1	10	30
1990	1,525	477	155		169	2	8	46
1991	1,848	491	218	448	226	8	13	65
1992	1,855	446	177	459	213	10	16	106
1993	1,650	429	202	453	263	15	11	125
1994	1,826	491	260	450	300		10	89
1995	1,978	523	267	448	240	19	16	109

Appendix table 7. Federal S&E support to academic institutions, by funding agency and type of support: FY 1971–2000

(Millions of constant 1996 dollars)

Page 3 of 3

Fiscal year	All agencies	HHS	NSF	USDA	DOD	DOE	EPA	NASA
1996	1,856	532	308	430	183	7	14	87
1997	1,766	546	280	427	178	6	15	93
1998	1,993	615	344	424	158	9	18	129
1999	2,211	706	402	425	109	9	15	124
2000	2,199	735	326	484	164	0	14	135

KEY: HHS = Department of Health and Human Services; NSF = National Science Foundation; USDA = Department of Agriculture; DOD = Department of Defense; DOE = Department of Energy; EPA = Environmental Protection Agency; NASA = National Aeronautics and Space Administration

NOTES: S&E support includes both R&D support and "other S&E support." R&D support includes support for both R&D and R&D plant. "Other S&E support" includes support for facilities and equipment for S&E instruction; fellowships, traineeships, and training grants; general support for S&E; and other S&E activities.

Appendix table 8. Federal S&E support to academic institutions, by type of support: FY 1971–2000 (Millions of constant 1996 dollars)

			R&D		Other S&E support							
						Facilities and	Fellowships,					
					Total "Other	equipment	traineeships,	General				
Fiscal			Conduct		S&E	for S&E	and training	support	Other S&E			
year	Total S&E	Total R&D	of R&D	R&D plant	support"	instruction	grants	for S&E	activities			
1971	7,831	5,285	5,185	100	2,546	96	1,407	333	710			
1972	8,299	6,034	5,917	118	2,264	84	1,238	266	676			
1973	7,534	5,852	5,719	132	1,682	41	878	119	644			
1974	7,811	6,034	5,951	83	1,777	10	932	248	587			
1975	7,256	5,924	5,809	116	1,332	13	520	120	678			
1976	7,149	5,930	5,872	58	1,219	8	422	180	609			
1977	7,529	6,379	6,297	82	1,150	7	415	171	557			
1978	8,332	7,197	7,125	72	1,135	10	433	156	535			
1979	8,700	7,597	7,535	62	1,103	13	398	180	511			
1980	8,557	7,498	7,431	67	1,058	7	375	163	513			
1981	8,243	7,227	7,182	45	1,016	7	334	151	523			
1982	7,881	6,978	6,930	47	904	1	269	122	512			
1983	8,280	7,378	7,323	55	902	4	276	138	484			
1984	8,867	7,729	7,659	70	1,138	3	274	158	703			
1985	9,876	8,654	8,499	155	1,222	7	344	162	708			
1986	9,875	8,721	8,580	141	1,154	7	327	148	672			
1987	11,080	9,662	9,365	297	1,418	18	376	306	717			
1988	11,443	9,922	9,668	254	1,520	17	387	215	901			
1989	12,155	10,570	10,284	286	1,586	20	411	238	916			
1990	12,168	10,643	10,478	165	1,525	22	458	167	878			
1991	13,319	11,471	11,288	183	1,848	37	525	216	1,071			
1992	13,994	12,139	11,911	228	1,855	42	557	175	1,081			
1993	13,664	12,014	11,738	276	1,650	35	560	71	984			
1994	14,451	12,625	12,399	226	1,826	51	660	142	973			
1995	14,750	12,773	12,424	348	1,978	53	688	269	968			
1996	14,450	12,594	12,346	248	1,856	49	636	219	952			
1997	14,807	13,041	12,770	271	1,766	29	664	168	906			
1998	15,566	13,573	13,422	151	1,993	22	732	230	1,008			
1999	17,241	15,030	14,865	165	2,211	45	806	300	1,060			
2000	18,596	16,397	16,166	232	2,199	58	732	304	1,104			

NOTE: S&E includes R&D support (both the conduct of R&D and R&D plant) and "other S&E support" (facilities and equipment for S&E instruction; fellowships, traineeships, and training grants; general support for S&E; and other S&E activities).

Appendix table 9. Number of academic institutions receiving Federal S&E support, by funding agency and type of support: FY 1971–2000

Page 1 of 3

								Page 1 of 3
Fiscal year	All agencies	HHS	NSF	USDA	DOD	DOE	EPA	NASA
Total S&E								,
1971	1,248	499	898	103	237	191	177	217
1972	1,378	580	940	114	248	184	169	222
1973	1,199	549	824	109	241	187	181	217
1974	1,043	566	872	125	236	188	202	243
1975	1,004	443	684	130	236	207	205	271
1976	840	490	625	128	231	188	196	250
1977	912	456	713	143	229	195		253
1978	940	486	748	172	240	217		247
1979	928	504	737	177	239	253		252
1980	890	476	711	195	250	231		275
1981	869	474	655	185	272	239		269
1982	680	435	395	176	272	232		259
1983	674	431	396	172	259	193		260
1984	694	424	434	175	256	220		263
1985	770	437	561	183	252	234		269
1986	794	483	560	179	244	242		262
1987	1,031	556	592	179	278	237		289
1988	994	489	633	182	267	252		285
1989 1990	1,048	459 469	682	159	290 266	255		291 301
1991	1,005 1,111	409	705 730	182 220	316			320
1992	1,111	490	730 774	292	320	293		351
1993	1,122	526	766	316	340	292		363
1994	1,141	558	834	306	352	286		374
1995	1,131	577	792	289	342	255		396
1996	1,087	540	756	278	361	270		380
1997	1,143	559	797	327	360	252		416
1998	1,082	565	724	286	359	259		371
1999	1,092	584	668	296	344	263		388
2000	1,046	544	683	288	341	259	201	377
R&D								
1971	563	335	309	98	237	174	137	214
1972	617	377	326	112	248	161		217
1973	534	341	340	106	241	155		214
1974	547	356	340	124	236			236
1975	558	351	334	129	236			263
1976	572	357	357	128	231			240
1977	617	344	419	143	229			246
1978	674	387	442	171	240	213	173	240
1979	663	408	437	174	239	219	182	246
1980	683	406	460	193	250	229	182	268
1981	619	402	383	183	257	194	158	263
1982	586	373	365	175	261	201	174	252
1983	600	369	385	171	249			248
1984	602	354	404	173	248	214	152	252

Appendix table 9. Number of academic institutions receiving Federal S&E support, by funding agency and type of support: FY 1971–2000

Page 2 of 3

Fiscal year	All agencies	HHS	NSF	USDA	DOD	DOE	EPA	NASA
1985	646	368	478	179	249	227	157	260
1986	650	423	450	176	242	228	157	251
1987	764	424	467	177	246	224	170	280
1988	685	429	491	178	250	237	148	272
1989	716	398	531	157	269	238	155	284
1990	748	405	558	175	263	247	167	289
1991	777	406	574	211	302	250	190	299
1992	839	427	624	250	299	291	208	325
1993	891	421	608	273	311	264	193	336
1994	907	427	686	267	336	255	194	354
1995	901	454	672	256	324	226	203	365
1996	843	425	629	209	340	257	163	347
1997	844	441	578	249	348	248	174	376
1998	794	447	534	225	346	251	171	338
1999	791	460	523	234	333	255	157	357
2000	814	469	535	246	331	259	161	341
"Other S&E"								
1971	1,215	419	882	60	0	94	112	50
1972	1,330	475	923	73	0	100	91	43
1973	1,150	460	784	71	0	106	111	46
1974	984	464	833	71	0	38	112	57
1975	922	326	625	71	0	51	121	74
1976	724	376	531	71	0	13	112	55
1977	766	352	614	71	0	29	44	55
1978	761	357	627	71	0	25	120	54
1979	761	358	620	75	0	103	102	55
1980	687	321	582	73	0	44	106	81
1981	708	318	571	75	83	105	66	84
1982	451	294	229	77	97	90	102	77
1983	423	298	185	76	75	17	107	89
1984	447	295	212	77	68	16	106	99
1985	558	305	326	89	49	14	115	102
1986	551	304	321	87	53	28	112	117
1987	808	399	357	82	104	26	89	116
1988	837	313	377	87	85	31	61	148
1989	881	317	444	81	86			141
1990	810	328	434	85	74	43	95	145
1991	936	329	511	92	100		121	175
1992	1,003	328	508	138	110		131	194
1993	838	399	519	145	117			196
1994	857	431	514	143	143			198
1995	862	429	481	141	139	80	124	222

Appendix table 9. Number of academic institutions receiving Federal S&E support, by funding agency and type of support: FY 1971–2000

Page 3 of 3

Fiscal year	All agencies	HHS	NSF	USDA	DOD	DOE	EPA	NASA
1985	646	368	478	179	249	227	157	260
1996	831	403	485	170	162	30	104	207
1997	923	409	563	178	135	18	115	242
1998	875	418	532	157	125	22	134	212
1999	892	430	462	161	145	24	117	215
2000	804	372	457	150	145	0	126	225

KEY: HHS = Department of Health and Human Services; NSF = National Science Foundation; USDA = Department of Agriculture; DOD = Department of Defense; DOE = Department of Energy; EPA = Environmental Protection Agency; NASA = National Aeronautics and Space Administration

NOTES: S&E support includes both R&D support and "other S&E support." R&D support includes support for both R&D and R&D plant. "Other S&E support" includes support for facilities and equipment for S&E instruction; fellowships, traineeships, and training grants; general support for S&E; and other S&E activities.

Appendix table 10. **NSF and HHS "other S&E support," by type of support: FY 1971–2000** (Millions of 1996 constant dollars)

Page 1 of 2

					Page 1 of 2
		Facilities and	Fellowships,		
	Total Other	equipment for	traineeships,	General support	
Fiscal year	S&E support	S&E instruction	and training grants	for S&E	Other S&E activities
NSF					
1971		40	141	190	167
1972	364	10	92	111	152
1973	195	5	50	43	96
1974	181	9	41	51	80
1975		-	25	0	151
1976		7	32	52	39
1977		7	33	56	56
1978		7	25	50	54
1979		6	27	57	43
1980		5	25	41	72
1981		5	24	34	56
1982		0	27	5	19
1983		0	24	2	21
1984		0	31	2	46
1985		7	35	4	26
1986		7	33	4	30
1987		11	36	7	42
1988		13	37	4	69
1989		18	40	4	87
1990		17	48	5	85
1991		24	39	7	148
1992		23	50	8	95
1993		23	51	10	118
1994		21	48	13	178
1995		18	52	15	181
1996		18	50	13	227
1997		16	50	2	212
1998 1999		13	59	1	270
2000		14	67 55	11	310 256
	320	14	55	2	200
HHS					
1971	1,192		1,033	134	24
1972	1,135		977	130	27
1973	842	0	755	62	25
1974	1,056		857	183	16
1975	602		466	96	39
1976	517	0	376	100	41
1977	493	0	364	94	35
1978	481	0	378	95	9
1979	449	0	338	103	9
1980	449	0	335	107	6

Appendix table 10. **NSF and HHS "other S&E support," by type of support: FY 1971–2000** (Millions of 1996 constant dollars)

Page 2 of 2

					Faye 2 01 2
		Facilities and	Fellowships,		
	Total Other	equipment for	traineeships,	General support	
Fiscal year	S&E support	S&E instruction	and training grants	for S&E	Other S&E activities
1981	405	0	299	98	9
1982	330	0	231	93	5
1983	350	0	239	107	4
1984	354	0	231	118	5
1985	449	0	287	153	9
1986	425	0	272	141	12
1987	460	0	301	146	13
1988	448	0	300	136	12
1989	461	0	309	132	20
1990	477	0	336	119	22
1991	491	0	350	122	19
1992	446	0	349	76	21
1993	429	0	357	28	43
1994	491	0	404	66	21
1995	523	0	427	60	36
1996	532	0	422	71	39
1997	546	0	441	74	30
1998	615	0	475	104	35
1999	706	0	534	132	40
2000	735	_	533	160	42

 $\textbf{KEY:} - = less than \$500,000; \, NSF = National \, Science \, Foundation; \, HHS = Department \, of \, Health \, and \, Human \, Services$

NOTE: Other S&E support includes support for facilities and equipment for S&E instruction; fellowships, traineeships, and training grants; general support for S&E; and other S&E activities.